

ANNOTATED CHECKLIST OF THE VASCULAR FLORA OF THE WIND RIVER RANGE, WYOMING (U.S.A.)

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ABSTRACT

More than 100 botanists have collected vascular plant specimens from the Wind River Range in northwestern Wyoming, U.S.A., and at least seven floristic surveys have been conducted in portions of the range. Until now, however, no comprehensive checklist has been developed for the area. We collected or examined over 28,600 specimens from the Wind Rivers to compile an annotated checklist of 1282 species and varieties, representing nearly 45 percent of the flora of Wyoming. The species richness of the Winds is second only to Yellowstone National Park in western Wyoming. This can be attributed to the presence of a variety of substrates, broad elevation range, and diversity of vegetation types. Ten subregions are recognized within the Wind Rivers that differ in geology, climate, elevation, and floristic diversity. From a conservation perspective, the Wind River Range is significant for having 82 rare plant species and in having three-quarters of its plant taxa present in wilderness areas or other formally protected lands.

RESUMEN

Más de 100 botánicos han colectado especímenes de plantas vasculares en la Wind River Range en el noroeste de Wyoming, U.S.A., y al menos se han llevado a cabo siete estudios florísticos en partes de la cordillera. Hasta ahora, sin embargo, no se ha desarrollado ningún catálogo global para el área. Hemos colectado o examinado más de 28,600 especímenes de los Wind Rivers para compilar un catálogo anotado de 1282 especies y variedades, que representan cerca del 45 por ciento de la flora de Wyoming. La riqueza de especies de los Winds es la segunda solo después del Yellowstone National Park en el oeste de Wyoming. Esto puede ser atribuido a la presencia de una variedad de substratos, amplio rango de elevación, y diversidad de tipos de vegetación. Se reconocen diez subregiones dentro de los Wind Rivers que difieren en geología, clima, elevación, y diversidad florística. Bajo la perspectiva de la conservación, la Wind River Range es significativa por tener 82 especies de planta raras y por tener tres cuartos de sus taxa vegetales presentes en áreas salvajes u otros espacios protegidos formalmente.

INTRODUCTION

The Wind River Range is located at the southern edge of the Central Rocky Mountains (Peet 2000) and Greater Yellowstone ecosystem in northwestern Wyoming. These mountains, "named for flowing water named for moving air" (Kelsey 1988) are the largest and highest range in the state (Blackstone 1993). More than 40 peaks exceed 3800 m (12,500 ft). The tallest, Gannett Peak at 4208 m (13800 ft), is the highest point in the Rocky Mountains between Canada and Colorado (Kelsey 1988). Scattered among these peaks is the second largest concentration of glaciers within the contiguous United States and one of the most extensive areas of alpine tundra (Scott 1995).

In June 1834, Thomas Nuttall collected the holotype of *Eriogonum acaule* at South Pass at the southern edge of the Wind River Range, making him the first botanist to study the flora of the area (Dorn 1986). More than 100 plant collectors have followed in Nuttall's footsteps, including John C. Fremont, Aven Nelson, Elmer D. Merrill, Edwin B. Payson, Cedric L. Porter, Frederick J. Hermann, Rupert C. Barneby, Reed C. Rollins, and

Erwin F. Evert. Since the mid-1960s, seven graduate students from the University of Wyoming's Rocky Mountain Herbarium (RM) have conducted floristic surveys of portions of the range. The purpose of this paper is to compile an annotated checklist of the vascular flora of the Wind River Range based on a synthesis of the existing literature and specimen databases of the RM (Hartman et al. 2009) and other regional herbaria. The paper will also highlight the biogeographic patterns and conservation significance of the area. The inventory of the Wind River Range is part of a larger effort by RM to document the flora of the middle and southern Rocky Mountains over the past 35 years (Hartman 1992) that has generated more than 50 master's theses and over 650,000 herbarium collections.

METHODS

The species list (Table 1) was derived from a review of unpublished floristic theses, natural area inventory reports, and rare species surveys conducted in the Wind River Range since the 1960s (Cramer 1997; Evert 2010; Fertig 1992, 1995a, 1995b, 1997, 1998; Haines 1988; Kinter 2000; Massatti 2007; Mills & Fertig 1996; Newton 2008; Rosenthal 1999; Scott 1966, 1995). Additional reports were found in the collections of the RM and Central Wyoming College (CWC) and records from the Wyoming Natural Diversity Database. At least one collection representing each species from the study area was re-verified at RM to corroborate its presence. Misidentified or falsely reported species from the Wind Rivers are listed in Table 2. Species nomenclature follows the RM Plant Specimen Database (Hartman et al. 2009), which itself is based on Dorn (2001) and more recent literature (including Barkworth 2003, 2007; Ertter 2007; Flora of North America Editorial Committee 1993+; Holmgren et al. 2005, 2012; Mast & Reveal 2007; Nesom 2006; Wagner et al. 2007). Family names are based on the Angiosperm Phylogeny Group (2009) classification. Each species entry in the checklist is annotated with additional information on the number of collections from the area, distribution within the Wind Rivers (by subregions), elevation range, and general habitat types. Synonyms are provided for names that differ from Dorn (2001), Fertig (1992), or Massatti (2007). Additional codes indicate species that are historical, introduced, or of conservation concern.

STUDY AREA

Setting. The Wind River Range straddles the Continental Divide from Togwotee Pass to South Pass, a distance of 177 km (110 miles). At its northern end, the Wind Rivers are bordered by the Absaroka and Gros Ventre ranges and the valley of the Buffalo Fork of the Snake River. To the east, south, and west, the range is bounded by the Wind River, Great Divide, and Green River basins, respectively (Fig. 1). The entire range covers an area of approximately 7800 square km (3010 square miles). For the purpose of this study, we excluded the Brooks Lake area and Dunoir Valley northeast of U.S. Highway 26/287, which is included in the Wind Rivers by some authors (Rosenthal 1999), because it is better considered part of the Absaroka Range.

The area is divided between Fremont, Sublette, and Teton counties. More than 80 percent of the Wind River Range is managed by the U.S. Forest Service. The area west of the Continental Divide is located within Bridger-Teton National Forest, while the lands to the east are part of Shoshone National Forest. More than half of the Forest Service lands are within three Congressionally-designated Wilderness Areas: Bridger, Fitzpatrick, and Popo Agie. About one-quarter of the east slope of the range is in the Wind River Indian Reservation. The foothills of the Wind Rivers include small parcels of private, state, and federal lands managed by the Bureau of Land Management (BLM). Several small towns are located in the foothills of the range, including Pine- dale on the west side, Lander off the southeast slope, and Dubois along the northeast boundary.

Climate. The Wind River Range lies in a partial rain shadow created by the Teton, Gros Ventre, Salt River, and Wyoming ranges to the west and southwest. The higher elevations of the Wind Rivers receive 132–152 cm of precipitation per year, with about 65 percent falling as snow (Martner 1986; Potkin 1991). Precipitation is greatest at the northern end of the range and decreases southward (PRISM Climate Group 2007). Annual precipitation in the foothills averages 20–38 cm. Most precipitation occurs in April and May, with a secondary peak in September and October (Western Region Climate Center 2007).

TABLE 1. Summary of vascular plant taxa of the Wind River Range.

Category	Number of Taxa in Wind River Range	Percentage of Wind River Flora
Taxonomy		
Total taxa	1282	100
Full species	1190	92.8
Additional varieties or subspecies	92	7.2
Fern allies	8	0.6
Ferns	13	1.0
Gymnosperms	11	0.9
Angiosperms	1250	97.5
Monocots	300	23.4
Dicots	950	74.1
Other Status		
Native taxa	1183	92.3
Introduced taxa	99	7.7
Noxious weed taxa	14	1.1
Taxa of Conservation Concern	82	6.4
Vegetation Types		
Alpine tundra (at)	297	23.1
Aquatic (aq)	69	5.4
Aspen forests (af)	332	25.9
Badlands (bd)	79	6.2
Big sagebrush grasslands (bs)	607	47.3
Disturbed sites (ds)	301	23.5
Douglas-fir forests (df)	158	12.3
Dry meadows (dm)	693	54.0
Forested wetlands (fw)	384	29.9
Granite and gneiss outcrops (gr)	409	31.9
Juniper woodlands (jw)	119	9.3
Limber pine woodlands (lw)	82	6.4
Limestone and calcareous outcrops (lm)	286	22.3
Lodgepole pine forests (lf)	324	25.3
Marshes and bogs (ma)	220	17.1
Riparian shrublands (non-willow) (rs)	96	7.5
Sand and gravel bars (sa)	288	22.4
Spruce-fir forests (sf)	263	20.5
Wet meadows (wm)	572	44.6
Whitebark pine forests (wf)	121	9.4
Willow thickets (wt)	355	27.7
Geographic Subregions (numbers in parentheses are taxa restricted to each subregion)		
Boulder Creek drainage (B)	686 (17)	53.5
Dinwoody Creek drainage (D)	525 (14)	40.9
Fremont Lake (F)	877 (65)	68.4
Green River Lakes (G)	521 (15)	40.6
Limestone Mountain (L)	592 (77)	46.2
Moccasin Basin (M)	517 (12)	40.3
Popo Agie River drainage (P)	595 (13)	46.4
South Pass (S)	377 (18)	29.4
Torrey Lake (T)	546 (31)	42.6
Warm Spring Creek drainage (W)	524 (15)	40.8

Temperature data are primarily available from weather stations located in the foothills of the range. Average annual temperature ranges from 2.1° C in Pinedale (elevation 2187 m) to 7° C in Lander (elevation 1632 m). Daily average minimum and maximum temperatures in January vary from -3° C and 18° C in Pinedale to -12° C and 0° C in Dubois (elevation 2115 m). In July, average minimum and maximum temperatures range from 5° C and 25° C in Pinedale to 13° C and 30° C in Lander (Martner 1986; Western Region Climate Center 2007).

TABLE 2. Species rejected from the annotated checklist of the flora of the Wind River Range (based on Fertig 1992; Haines 1988; Massatti 2007; Newton 2008; Rosenthal 1999; and RM records).

Apiaceae

Shoshonea pulvinata Evert & Const. (collection is east of Wind River Range)

Asteraceae

Artemisia tridentata Nutt. var. *spiciformis* (Osterh.) Dorn (misidentified, = *A. arbuscula*)

Erigeron nanus Nutt. (misidentified, = *E. concinnus* var. *concinnus*)

Gutierrezia sarothrae (Pursh) Britt. & Rusby (collection is east of Wind River Range)

Helianthus nuttallii Torrey & Gray (misidentified, = *Helianthella uniflora*)

Hymenopappus filifolius Hook. var. *luteus* (Nutt.) Turner (misidentified, = *H. polycephalus*)

Dieteria canescens (Pursh) Nutt. var. *glabra* (Gray) Morgan & Hartman (misidentified, = *Symphotrichum spathulatum*)

Pyrrocoma clementis Rydb. var. *villosa* (Rydb.) Mayes ex Brown & Keil (misidentified, = var. *clementis* and *P. integrifolia*)

Solidago mollis Bartl. (misidentified, = *S. velutina*)

Stephanomeria tenuifolia (Raf.) Hall (misidentified, = *S. fluminea*)

Tragopogon miscellus Ownbey (misidentified, = *T. pratensis*)

Boraginaceae

Cryptantha circumcissa (H. & A.) Johnston (misidentified, = *Plagiobothrys scouleri*)

Brassicaceae

Erysimum asperum (Nutt.) DC. var. *asperum* (misidentified, = *E. capitatum* var. *capitatum*)

Physaria eburniflora Roll. (misidentified, = *P. saximontana*)

Caprifoliaceae

Symphoricarpos albus (L.) Blake var. *laevigatus* (Fern.) Blake (misidentified, = *S. oreophilus*)

Caryophyllaceae

Minuartia dawsonensis (Britt.) House (misidentified, = *M. austromontana*)

Cyperaceae

Carex nova Bailey var. *nova* (misidentified, = var. *pelocarpa*)

Carex scirpoidea Michx. var. *scirpiformis* (Mack.) O'Neill & Duman (misidentified, = var. *pseudoscirpoidea*)

Scirpus microcarpus Presl (collection is west of Wind River Range)

Ericaceae

Vaccinium cespitosum Michx. (misidentified, = *V. membranaceum*)

Fabaceae

Astragalus miser Dougl. var. *oblongifolius* (Rydb.) Cronq. (misidentified, = var. *decumbens*)

Astragalus shortianus Nutt. (misidentified, = *A. missouriensis*)

Lupinus leucophyllus Dougl. ex Lindl. (misidentified, = *L. argenteus* var. *argophyllus* and *L. sericeus*)

Oxytropis sericea Nutt. var. *spicata* (Hook.) Barneby (misidentified, = var. *sericea*)

Trifolium parryi Gray var. *parryi* (misidentified, = var. *montanense*)

Grossulariaceae

Ribes oxyacanthoides L. var. *oxyacanthoides* (mis-identified, = var. *setosum*)

Hydrocharitaceae

Elodea canadensis Michx. (misidentified, = *E. bifoliata* & *E. nuttallii*)

Orobanchaceae

Penstemon cyananthus Hook. (misidentified, = *P. subglaber*)

Parnassiaceae

Parnassia parviflora DC. (misidentified, = *P. palustris* var. *montanensis*)

Phrymaceae

Mimulus glabratus H.B.K. var. *jamesii* (T. & G. ex Benth.) Gray (holotype of *M. glabratus* var. *fremontii* cited as "Wind River Range" on Fremont's label, but actually collected in Laramie Range by Fremont according to Cronquist et al. (1984).

Poaceae

Agrostis capillaris L. (misidentified, = *A. stolonifera*)

Puccinellia nuttalliana (Schultes) Hitchc. (specimen has not been relocated at RM; location outside expected range)

Polygonaceae

Eriogonum heracleoides Nutt. (historical collection from RM cannot be relocated and is presumed annotated)

Eriogonum umbellatum Torrey var. *dichrocephalum* Gand. (collection is west of Wind River Range)

Rosaceae

Agrimonia gryposepala Wallr. (historical collection by T.A. Williams has vague locality data but is probably from east of Wind River Range)

Potentilla hippiana Lehm. var. *hippiana* (misidentified, = *P. concinna* or *P. hippiana* var. *effusa* hybrids)

Rosa arkansana Porter (misidentified, = *R. sayi*)

Sarcobataceae

Sarcobatus vermiculatus (Hook.) Torrey (collection is west of Wind River Range)

Themidaceae

Triteleia grandiflora Lindl. (report from Dubois area based on collection from Jackson Hole)

Verbenaceae

Glandularia bipinnatifida (Nutt.) Nutt. (historical collection by T.A. Williams has vague locality data but is probably from east of Wind River Range)

Violaceae

Viola mackloskeyi Lloyd var. *pallens* (Banks ex DC.) Hitchc. (misidentified, = *V. palustris*)

Viola nuttallii Pursh (misidentified, = *V. praemorsa*)

By contrast, Titcomb Basin (elevation 3200 m; 10500 ft) near the Continental Divide has an average temperature of -3.3°C , and ranges from -15°C in January to 9.4°C in July (Kelsey 1988).

Geology. The core of the Wind River Range is a block of uplifted Precambrian crust approximately 160 km long by 55 km wide. This block consists of 3.4–3.8 billion year old metamorphic migmatite and gneiss intruded by 2.5–2.7 billion year old igneous granite (Koesterer et al. 1987). Younger Paleozoic and Mesozoic marine sedimentary formations are exposed along the eastern flank of the Wind Rivers and in the vicinity of the Green River Lakes on the west slope (Worl et al. 1986). These formations include the Cambrian Gallatin limestone, Gros Ventre shale, and Flathead limestone, Ordovician Bighorn dolomite, Mississippian Madison

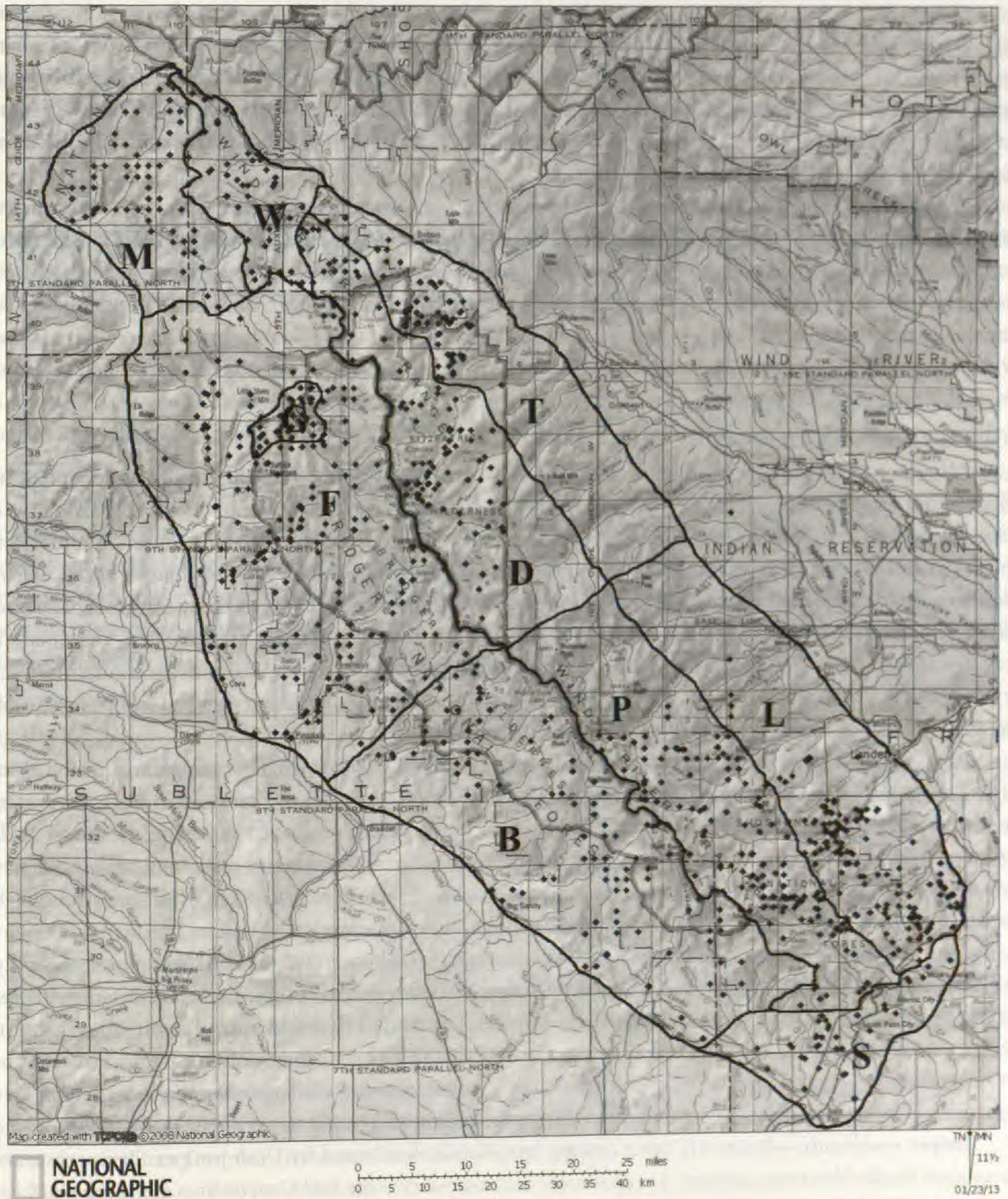


FIG. 1. Map of the Wind River Range in western Wyoming. Collection sites from recent floristic surveys and specimen data from RM are indicated by black diamonds. Geographic subregions within the range are indicated by capital letters (B = Boulder Creek drainage, D = Dinwoody Creek drainage, F = Fremont Lake, G = Green River Lakes, L = Limestone Mountain, M = Moccasin Basin, P = Popo Agie River drainage, S = South Pass, T = Torrey Lake, W = Warm Spring Creek drainage).

limestone, Permian Phosphoria, Triassic Chugwater, and Jurassic Nugget sandstone. A mixture of Lower Tertiary and Upper Cretaceous sedimentary and igneous rocks is exposed between Union Pass and Togwotee Pass, including the Wind River, Aycross, and Devils Basin formations (Lageson & Spearing 1988; Love & Christiansen 1985). Quaternary glacial deposits and Tertiary gravels bury large areas on the west flank of the range and in the Union Pass area (Worl et al. 1986).

The modern terrain of the Wind River Range has been sculpted by Pleistocene glaciation. In the last 200,000 years there have been at least three major glacial advances (Lageson & Spearing 1988). The scouring action of glaciers produced the large cirques, sharp-crested peaks, and U-shaped valleys common in the mountains (Worl et al. 1986) as well as erratic boulders, moraines, and large glacial lakes in the foothills. Several large glaciers still exist, mostly just east of the Continental Divide, and some of these show evidence of advancing in the past 100–2100 years (Mears 1997).

Vegetation. The vegetation of the Wind River Range and northwestern Wyoming has been described in detail by Evert (2010), Gregory (1983), Habeck (1987), Knight (1994), Potkin (1991), Reed (1971, 1976), Tweit and Houston (1980), Walford et al. (2001), Youngblood and Mueggler (1981), and Youngblood et al. (1985). We recognize twenty-one general vegetation types for the Wind Rivers (Fertig 1992; Massatti 2007) based on differences in physiognomy (forests/woodlands, shrublands, and forb/graminoid meadows), topography (slopes or depressions), soil moisture, elevation zone (foothills, montane, subalpine, or alpine), and substrate (sand, clay, limestone, or granite/gneiss).

FORESTS AND WOODLANDS

Aspen forests.—Quaking aspen (*Populus tremuloides*) is common from the foothills to the upper subalpine zones in the Wind River Range, especially in areas with a history of disturbance or on relatively calcareous or mesophytic soils derived from sedimentary formations (Youngblood & Mueggler 1981). Common understory species include *Symphoricarpos oreophilus*, *Mahonia repens*, *Artemisia tridentata* var. *vaseyana*, *Arnica cordifolia*, *Lupinus argenteus*, *Geranium viscosissimum*, and *Astragalus miser*. Stands that are grazed by cattle or sheep often have an understory dominated by *Frasera speciosa*, *Hymenoxys hoopesii*, *Arctostaphylos uva-ursi*, and *Juniperus communis* (Reed 1971; Youngblood & Mueggler 1981). Aspen stands are usually seral to other coniferous forest types, though climax aspen forests may occur in a band between low elevation sagebrush grasslands and Douglas-fir or spruce-fir forests in the Wind Rivers (Reed 1971).

Douglas-fir forests.—Forests dominated by Douglas-fir (*Pseudotsuga menziesii* var. *glauca*) in the Wind River Range occur primarily on steep, north exposures in the foothills and lower montane zones on limestone or sedimentary soils (Reed 1976). Spruce-fir forests typically replace Douglas-fir on higher elevation acidic soils derived from gneiss or granite. Common understory species include *Juniperus communis*, *Mahonia repens*, *Symphoricarpos oreophilus*, *Poa wheeleri*, and *Festuca idahoensis* (Steele et al. 1983). On drier sites, Douglas-fir forests intergrade with big sagebrush grasslands and limber pine woodlands.

Forest wetlands.—This broad category includes swamps, lakeshores, and streamsides dominated by Engelmann spruce (*Picea engelmannii*), blue spruce (*P. pungens*), narrowleaf cottonwood (*Populus angustifolia*), quaking aspen, or other tree species (Fertig 1992). Forested wetlands differ from upland forest types by occurring on wetter and more poorly-drained soils (usually in drainage bottoms) and by often having a richer herbaceous understory. Typical understory species include *Carex microptera*, *Calamagrostis canadensis*, *Bromus ciliatus*, *Senecio triangularis*, *Saxifraga odontoloma*, *Mertensia ciliata*, and *Equisetum arvense* (Massatti 2007).

Juniper woodlands.—Relatively open canopy woodlands dominated by Utah juniper (*Juniperus osteosperma*) or Rocky Mountain juniper (*J. scopulorum*) are restricted to the Red Canyon area along the southeast flank of the Wind River Range (Massatti 2007). This vegetation type occurs on siltstone and sandstone-derived soils. Common understory species include *Artemisia tridentata*, *Leucopoa kingii*, *Purshia tridentata*, and *Rhus trilobata* (Massatti 2007).

Limber pine woodlands.—Limber pine (*Pinus flexilis*) forms open woodlands on dry slopes and ridges in the foothills of the Wind River Range (Steele et al. 1983). Stands usually occur on south exposures over well-drained, rocky, sedimentary soils. Common associated species include *Shepherdia canadensis*, *Juniperus communis*, *Symphoricarpos oreophilus*, *Leucopoa kingii*, *Carex rossii*, and *Festuca idahoensis*.

Lodgepole pine forests.—Forests dominated by lodgepole pine (*Pinus contorta* var. *latifolia*) cover extensive areas of the foothill, montane, and subalpine zones of the Wind River Range. Lodgepole pine may form nearly pure stands following severe disturbances, especially fire. Stands are usually seral to other coniferous forest types, but climax lodgepole pine forests can persist on dry, cool, or relatively infertile sites (Steele et al. 1983).

Seral and climax lodgepole pine forests tend to have low species richness (Reed 1976). Typical species from the understory include *Juniperus communis*, *Vaccinium scoparium*, *Arnica cordifolia*, *Carex rossii*, *Poa wheeleri*, *Achillea millefolium*, *Antennaria rosea*, and *Potentilla diversifolia*. *Calamagrostis rubescens* and *Carex geyeri*, two species that are often dominant in lodgepole pine communities elsewhere in western Wyoming, are absent or rare in the Wind Rivers (Steele et al. 1983).

Spruce-fir forests.—Subalpine fir (*Abies bifolia*) and Engelmann spruce (*Picea engelmannii*) are the dominant tree species in the montane and subalpine forests of the Wind Rivers. *Abies bifolia* is more likely to be dominant (with *P. engelmannii* being seral) on well drained, dry to mesic sites (Reed 1976; Steele et al. 1983). *Picea engelmannii* tends to be dominant or co-dominant on wetter or higher elevation sites or areas with periodic disturbance (Peet 2000; Steele et al. 1983). Potkin (1991) found the understories of different spruce-fir habitat types to be floristically similar and relatively depauperate. Typical understory species include *Vaccinium scoparium*, *Shepherdia canadensis*, *Juniperus communis*, *Arnica cordifolia*, *Antennaria microphylla*, *Carex rossii*, and *Poa wheeleri*. *Calamagrostis rubescens*, *Carex geyeri*, and *Spiraea betulifolia* are common understory species in spruce-fir forests of the Teton and Wyoming ranges, but are rare to absent in the Wind Rivers (Steele et al. 1983).

Whitebark pine forests.—Whitebark pine (*Pinus albicaulis*) occurs mostly from upper timberline to the upper montane elevation zone, where it is usually subdominant to subalpine fir and Engelmann spruce. Forests dominated by whitebark pine are limited to ridges and slopes exposed to extreme cold, high winds, and drought conditions unsuitable to spruce-fir forest (Reed 1976; Steele et al. 1983). Species commonly found in these stands include *Vaccinium scoparium*, *Arnica cordifolia*, *Carex rossii*, *Poa wheeleri*, *Juniperus communis*, and *Ribes montigenum*. These forests have been impacted by blister rust in the past decade.

SHRUBLANDS

Big sagebrush grasslands.—Shrub steppe dominated by mountain big sagebrush (*Artemisia tridentata* var. *vaseyana*) is the most widespread non-forested vegetation type in the Wind River Range. This type occurs on upland sites from the foothills to the lower subalpine on well-drained, sandy, or coarse-textured soils (Knight 1994). Common associated species include *Festuca idahoensis*, *Elymus spicatus*, *E. trachycaulus*, *Poa fendleriana*, *P. secunda*, *Achnatherum nelsonii*, *Koeleria macrantha*, *Purshia tridentata*, and *Ericameria nauseosa*. Dry, rocky slopes and talus in the sagebrush zone are often locally dominated by other shrub species, such as *Acer glabrum*, *Amelanchier alnifolia*, *Cornus sericea*, or *Symphoricarpos oreophilus* (Fertig 1992).

Riparian shrublands (non willow).—Riparian shrublands are a relatively minor vegetation type found along streams, lakes, and moist, low-lying depressions. These communities are dominated by a mix of shrub species that does not include willows or trees. The most common dominants are *Betula occidentalis*, *B. glandulosa*, *Cornus sericea*, *Lonicera involucrata*, and *Prunus virginiana*. Typical understory species include *Equisetum arvense*, *Heracleum sphondylium*, *Poa pratensis*, *Calamagrostis canadensis*, and *Carex microptera* (Fertig 1992). In some low elevation areas silver sagebrush (*Artemisia cana* var. *viscidula*) may dominate streambank communities, with or without *Dasiphora fruticosa* (Youngblood et al. 1985).

Willow thickets.—Willow (*Salix* spp.) thickets are the most widespread riparian shrub vegetation type in the Wind River Range (Walford et al. 2001; Youngblood et al. 1985). Willow stands occur from the foothills to above timberline and share a common physiognomy, but differ in the dominant species of *Salix*. At lower elevations, stands are dominated by *Salix boothii*, *S. wolfii*, or *S. geyeri* with an understory of *Deschampsia cespitosa*, *Geum macrophyllum*, *Agrostis stolonifera*, and *Poa pratensis*. In the subalpine zone, *Salix planifolia* (or occasionally *S. eastwoodiae*) becomes predominant (Walford et al. 2001). Willow communities in the alpine tend to be dominated by *Salix glauca* on well-drained mineral soils and *S. planifolia* on wetter sites (Potkin 1991).

FORB- OR GRAMINOID-DOMINATED VEGETATION

Alpine tundra.—Alpine tundra is restricted to the area above upper treeline on the highest peaks of the Wind River Range. This vegetation type is similar to the dry meadows characteristic of subalpine and montane zones, but is dominated by mat or cushion-forming forbs, dwarf shrubs, and low bunchgrasses (Scott 1966, 1995). Among the more common species are *Geum rossii*, *Salix arctica*, *S. reticulata*, *Selaginella densa*, *Silene acaulis*,

Minuartia obtusiloba, and *Carex elynoides*. Alpine tundra blends into woodlands of stunted *Picea engelmannii*, *Abies bifolia*, and *Pinus albicaulis* at upper timberline, which is sometimes treated as a distinct vegetation type (Fertig 1992).

Aquatic.—Aquatic vegetation consists of free-floating, submerged, or emergent forb and graminoid species found within lakes, ponds, and slow-moving streams from the foothills to the subalpine of the Wind River Range (Fertig 1992). This minor vegetation type is dominated by *Potamogeton* and *Stuckenia* spp., *Callitriche palustris*, *Ranunculus aquatilis*, *Carex utriculata*, *Sparganium angustifolium*, and *Alopecurus aequalis*.

Badlands.—Sparsely vegetated badland communities are a minor type found sporadically in the northern foothills of the Wind River Range on open, highly eroded, clay-rich slopes and drainage bottoms (Fertig 1992). Common species include *Pyrocoma uniflora*, *Lomatium triternatum*, *Phlox multiflora*, *Oenothera cespitosa*, *As-tragalus kentrophyta*, and *Antennaria microphylla*.

Disturbed sites.—Disturbed vegetation may be recognized by the dominance of non-native forb and graminoid species (Fertig 1992). In the Wind River Range, this vegetation type occurs chiefly along roadsides, trails, parking lots, or areas that have been logged, burned, or used heavily by livestock. Typical species include *Bromus inermis*, *B. tectorum*, *Phleum pratense*, *Poa pratensis*, *Taraxacum officinale*, *T. erythrospermum*, *Capsella bursa-pastoris*, *Cirsium arvense*, *Thlaspi arvense*, and *Tragopogon dubius*.

Dry meadows.—Dry meadow communities are park-like openings in upland sites from the foothills to upper treeline dominated by perennial grasses and forbs with little to no mountain big sagebrush. These sites often occur on relatively well-drained, fine-textured alluvial or colluvial soils with a dense sod that inhibits the establishment of forests (Peet 2000). Common species include *Festuca idahoensis*, *Elymus spicatus*, *E. trachy-caulus*, *Lupinus argenteus*, and *Ligusticum filicinum*. Dry meadows in the Range with a history of sheep grazing tend to become dominated by *Achnatherum lettermanii*, *Trisetum spicatum*, *Achillea millefolium*, and *Agoseris glauca* (Potkin 1991).

Granite or gneiss outcrops.—Exposed granite or gneiss bedrock, cliff faces, talus slopes, and boulder fields are common along the Continental Divide and can extend into the foothill zone on the west side of the Wind River Range. These sites are frequently disturbed by rock slides and have shallow, xeric soils due to exposure to high winds (Gregory 1983). Vegetative cover is sparse and consists mostly of bunchgrasses or forbs (sites with high sagebrush or montane shrub cover are classified as big sagebrush grasslands). At lower elevations, granitic outcrops tend to be dominated by *Balsamorhiza sagittata*, *Eriogonum umbellatum*, and *Elymus trachy-caulus*. At upper treeline and above, granite outcrops are commonly inhabited by *Oxyria digyna*, *Erigeron compositus*, *Trisetum spicatum*, *Hymenoxys grandiflora*, *Antennaria media*, and *Phlox multiflora*.

Limestone or calcareous outcrops.—Cliffs and talus fields derived from limestone sedimentary rocks occur along the east flank of the Wind Rivers and on high peaks adjacent to the Green River Lakes on the west slope. As with granitic outcrops, this community type is characterized by low cover of bunchgrasses and perennial forbs and often lacks shrub or tree species. A suite of calceophilic plant taxa (including many rare species) are restricted to limestone outcrops, such as *Dryas octopetala*, *Saxifraga oppositifolia*, *Saussurea weberi*, *Parrya nudicaulis*, *Antennaria aromatica*, and *Boykinia heucheriformis*.

Marshes and bogs.—Marshlands dominated by sedges or grasses occur along waterways in valley bottoms and adjacent to shallow lakes and ponds in the foothills and montane zones of the Wind River Range. Sites with saturated or flooded soils are often dominated by *Carex utriculata* (Walford et al. 2001), while drier sites may be dominated by *C. aquatilis* (Youngblood et al. 1985). Other common marsh species include *Calamagrostis canadensis*, *Deschampsia cespitosa*, *Poa pratensis*, and *Geum macrophyllum*. Heath bogs occur in similar environments with a high water table in the subalpine zone, but are dominated by low shrubs or forbs (Potkin 1991). Typical bog species are *Kalmia microphylla*, *Vaccinium occidentale*, *Deschampsia cespitosa*, *Juncus drummondii*, *Pedicularis groenlandica*, *Caltha leptosepala*, *Salix planifolia*, and *S. glauca*.

Sand and gravel bars.—This vegetation type occurs on sandy beaches, gravel bars, and mud flats adjacent to lakes, rivers, and streams throughout the Wind Rivers (Fertig 1992). Sites typically have only a modest cover of graminoids and forbs. Common species include *Equisetum arvense*, *Arnica chamissonis*, *Rorippa curvipes*, *Ranunculus flammula*, *Alopecurus aequalis*, *Agrostis scabra*, and *Carex athrostachya*.

Wet meadows.—Wet meadows are found along moist streamsides, lakeshores, and floodplains or in low-lying areas that accumulate drifting snow. Similar in appearance to dry meadows, wet meadows are dominated by a thick turf of perennial graminoid and forb species, but relatively few shrubs or trees. Species richness tends to be high in these stands (Tweit & Houston 1980; Youngblood et al. 1981). Dominant species may include *Erigeron glacialis*, *Caltha leptosepala*, *Mertensia ciliata*, *Senecio triangularis*, *Deschampsia cespitosa*, *Poa pratensis*, *P. palustris*, *Calamagrostis canadensis*, *Juncus arcticus*, and *Carex microptera*. Wet meadows intergrade with dry meadows and alpine tundra but tend to support a different suite of species.

Geographic Subregions. Based on differences in climate, geology, and elevation, the Wind River Range can be divided into geographic subregions that reflect differences in local floristic composition. Fertig (1992) recognized five subregions on the west side of the Continental Divide and Massatti (2007) identified six from the east side. We have modified these subdivisions slightly and revised their names to avoid duplication to derive the following ten geographic subregions for the range (Fig. 1).

Boulder Creek drainage.—Formerly called the South-Central region by Fertig (1992), this subunit extends from Mount Victor and Burnt Lake on the west side of the Continental Divide to Rennecker Peak and the Prospect Mountains. The area includes the south half of the Bridger Wilderness and the Boulder Creek, East Fork, Big Sandy, and upper Sweetwater River drainages. This region is similar to the Fremont Lake subregion to the north in being predominantly gneiss and granite, but has a progressively drier climate and different grazing history (Potkin 1991).

Dinwoody Creek drainage.—This area, located east of the Continental Divide, was previously named the North-Central Region by Massatti (2007). It includes the granite/gneiss core of the northeastern Wind Rivers from Union Peak to Milky Ridge, but excludes the calcareous and sandstone exposures along the east flank of the range (separated out as the Torrey Lake subregion). Most of this region is included within the Fitzpatrick Wilderness Area of Shoshone National Forest.

Fremont Lake.—Previously called the North-Central region by Fertig (1992), this subregion occupies the high elevation granite-gneiss core of the west slope of the Range from the Green River divide and Union Pass south to the Boulder Creek divide between Half Moon and Burnt lakes. The Fremont Lake region includes the north half of the Bridger Wilderness and has a wetter climate than the otherwise similar Boulder Creek region to the south.

Green River Lakes.—This region includes the calcareous mountains (Gypsum Peak, Big Sheep Mountain, and White Rock) and adjacent valley surrounding the Green River Lakes west of the Continental Divide. This is the only area on the west slope of the range that has retained its original mantle of limestone caprock, in sharp contrast to the high elevation gneiss and granite bedrock of the surrounding Fremont Lake region. The flora of the alpine areas of the Green River Lakes shares many rare and disjunct species with Arrow Mountain and other calcareous peaks in the Torrey Lake subregion east of the Divide.

Limestone Mountain.—Located along the southeast flank of the range and formerly known as the Southeast Region (Massatti 2007), the Limestone Mountain area is characterized by sedimentary formations comparable to those along the northeast slope of the Wind Rivers in the Torrey Lake region, but mostly at a lower elevation and with a drier climate. Major features include Red Canyon (the lowest point in the Wind River Range at 1725 m), Fairfield Hill, Limestone Mountain, and the Freak Mountains.

Moccasin Basin.—The Moccasin Basin region is located along the northwestern flank of the Range west of the Continental Divide and encompasses the Cottonwood Creek and Fish Creek drainages between Togwotee Pass and the Green River divide. Most of the basin is comprised of relatively low hills (mostly under 3050 m) with volcanic soils or Tertiary-age claystones and sandstones (Devils Basin, Wind River, and Pinyon formations). Alpine vegetation is restricted to the summit of Two Ocean Mountain, just south of Togwotee Pass (Fertig 1992).

Popo Agie River drainage.—Known as the South-Central region by Massatti (2007), the Popo Agie River region contains the granite-gneiss core of the southern Wind River Range on the east side of the Continental Divide. The area is at lower elevation and has a drier climate than the Dinwoody Creek drainage to the north.

Much of the region is within the Popo Agie Wilderness Area and includes Wind River Peak, the Deep Creek lakes, Cirque of the Towers, and glacial deposits around Louis Lake.

South Pass.—Recognized by both Fertig (1992) and Massatti (2007), this region extends from the south end of the Prospect Mountains and Miner's Delight to South Pass City and Atlantic City east of Wyoming state highway 28. The entire area is located south of the boundary of Bridger-Teton and Shoshone national forests. The region consists of rolling hills with soils derived from sandstone, siltstone, granodiorite, and metasedimentary rocks. South Pass is essentially a broad ecotone between the core of the Wind River Range to the north and high desert basins to the east, south, and west.

Torrey Lake.—Originally named the Northeast Region (Massatti 2007), this area encompasses the sedimentary lower flanks of the east slope of the Wind River Range from Warm Spring Mountain and the foothills west of Dubois south to the Bull Lake area of the Wind River Indian Reservation. This region includes outcrops of the Madison and Gallatin limestones, Bighorn dolomite, Flathead sandstone, and Gros Ventre Formation and alpine summits of Whiskey Mountain, Arrow Mountain, and Dinwoody Peak. The Torrey Lake region shares floristic affinities with the Green River Lakes region on the west slope of the range and the drier Limestone Mountain region to the south.

Warm Spring Creek drainage.—This area (previously known as the North Region by Massatti 2007) is located on the east side of the Continental Divide from Togwotee Pass south to Union Peak and east to Dunoir and the north flank of Union Peak. Most of the subregion is drained by Warm Spring Creek and is underlain by volcanic claystones and basalts of Quaternary gravel, rather than Mesozoic sediments and Precambrian granites and gneiss typical of the regions to the south. Alpine habitats are restricted to the summits of Lava Mountain and Union Peak.

RESULTS AND DISCUSSION

Species Richness. Based on our field work and review of records from RM, CWC, and the literature, there are 1282 vascular plant taxa known from the Wind River Range (Table 1). This total includes 1190 full species and 92 separate varieties or subspecies. At least 32 of these taxa have not been relocated since 1970 and are considered historical. The flora of the Wind Rivers represents 44.6 percent of the vascular flora of Wyoming (2875 taxa; Fertig 2011). These species belong to 407 genera and 91 families (APG 2009). Angiosperms comprise nearly 98 percent of the taxa known from the Range.

An additional 62 species reported for the Wind River Range or vicinity (Fertig 1992; Haines 1988; Massatti 2007; Newton 2008; Rosenthal 1999; RM records) have been excluded from our annotated checklist. Twenty of these taxa are now considered synonyms of other species already known from the flora (these are listed in synonymy in the annotated checklist). Another nine taxa were rejected because the specimens cited for the Wind Rivers were collected beyond our boundaries. The remaining 33 were misidentified (Table 2).

The Wind River flora includes 99 non-native species that account for just 7.7 percent of the entire flora (Table 1). By comparison, introduced species make up 13.6 percent of the flora of Wyoming (Fertig 2011). Fourteen of the 26 officially designated state noxious weed species occur in the Wind River Range (Wyoming Weed and Pest Council 2012).

Since 1987, twelve first records for the state of Wyoming have been documented from the Wind River Range. Richard Scott discovered *Lathyrus eucosmus* in the southeastern foothills in 1987 and *Potentilla hyparctica* near the Continental Divide in 1988. Fertig (1992) found three new species records in 1990: *Coronilla varia* and *Tanacetum parthenium* (both introduced weeds) and *Erigeron lanatus* (a rare alpine endemic). Exploration of the Arrow Mountain area on the east slope in 1996 generated first records of *Arnica angustifolia* var. *tomentosa* and *Braya humilis* by Fertig and *Helictotrichon mortonianum* by Hartman. Massatti discovered *Carex lenticularis* var. *dolia* and Massatti and Wells (2008) found *Festuca viviparoides* ssp. *krajinae* in 2005–06. Nelson added *Muscari botryoides* from the vicinity of Atlantic City in 2005. Brasher and Enloe (2007) documented *Rorippa austriaca* from two sites near Cora along the western boundary of the study area in 2006.

Rare Species. The Wyoming Natural Diversity Database currently lists 82 species from the Wind River

Range as species of concern or potential species of concern (Heidel 2012). No plant species from the Wind Rivers are listed as Threatened or Endangered under the US Endangered Species Act (ESA), although two species were added to the Candidate list for potential listing in 2011. Whitebark pine (*Pinus albicaulis*) is a Candidate due to impacts from white pine blister rust, mountain pine beetles, and fire suppression (Ashe 2011). Small rockcress (*Boechera pusilla*), a South Pass endemic, was added to the list because of a significant population crash (Gould 2011). Of the 82 species of concern, 30 are designated Sensitive by the US Forest Service or BLM Wyoming state office (Heidel 2012). Sensitive species are given special management attention to prevent their continued downward population trends and potential listing as threatened or endangered. Most of the Sensitive species are Wyoming or Rocky Mountain endemics or arctic/boreal disjuncts and tend to occur in calcareous alpine or wetland habitats (Fertig 1997, 1998).

Richness by Vegetation Types. Of the 21 main vegetation types recognized for the Wind River Range, dry meadows have the highest species richness, with 693 taxa or 54 percent of the total flora (Table 1). Nearly as species-rich are wet meadows (572 taxa) and big sagebrush grasslands (607 taxa). Among forested vegetation types, forested wetlands have the highest species richness with 384 taxa (30 percent of the flora), followed by aspen forests with 332 taxa. Lodgepole pine forests, often considered species-poor, support a higher number of plant taxa in the Wind Rivers (324 taxa) than spruce-fir forests (263 taxa) or any other conifer-dominated vegetation type. Granite and gneiss rock outcrops have relatively high overall species richness with 409 taxa (32 percent) (Table 1).

Richness by Geographic Subregions. Fifty-four percent of the plant species of the Wind River Range (694 taxa) occur in four or less of the ten geographic subregions, with 21 percent (278 taxa) restricted to a single region (Table 1). By contrast, just 13 percent of the flora is found in nine or more subregions (168 taxa). Each subregion has at least 12 species that are not found elsewhere in the range. The Limestone Mountain (77 taxa) and Fremont Lake (65 taxa) subregions have the greatest number of such "endemics". Total species richness is highest in the Fremont Lake area with 877 taxa, representing 68 percent of the entire flora of the Wind Rivers (Table 1). This is also the largest subregion and is relatively heterogeneous in elevation and vegetation (though more uniform in geologic substrates). South Pass, one of the smallest subregions and lacking the elevational and vegetation diversity of other areas, has the lowest species richness with just 377 taxa, or 29.4 percent of the total flora.

Based on Jaccard's Index of Similarity, the average similarity between each pair of subregions is 0.428 (a score of 1.0 indicates complete similarity, and 0.0 complete dissimilarity). With the exception of the Popo Agie area, subregions at the far north and west slope of the range have higher average Jaccard's similarity than regions on the east slope or south end of the range (Table 3). Adjacent subregions tend to be more similar to each other than to more distant subregions, suggesting that environmental changes are gradual. The Boulder Creek and Fremont Lake subregions on the west slope are the most similar of any two pairs. Fertig (1992) noted the primary difference between these regions is in management history, with Fremont Lake being traditionally grazed by cattle and Boulder Creek by sheep. Massatti (2007) found that differences between the east slope and west slope subregions were less pronounced when averaged together, with a Jaccard's similarity of 0.645. The similarity between east and west slopes may be enhanced by the presence of high elevation calceophilic plants in the Green River Lakes region, which are otherwise found only on the east side.

The South Pass and Limestone Mountain subregions are the least similar to other areas of the range, with average Jaccard's similarity values of 0.318 and 0.375 respectively (Table 3). The distinctiveness of the South Pass flora can be attributed in part to floristic similarities with the adjacent high desert of the Great Divide Basin and the absence of large lakes or subalpine and alpine plant communities found in other subregions. The disparity in total species richness between South Pass and other regions can also dampen similarity scores (Fertig 1992). The relatively low elevation of the Limestone Mountain subregion, as well as its proximity to the Wind River Basin and high local endemism, are factors contributing to its distinctive flora (Massatti 2007).

Significance of the Wind River Range. The Wind River Range has the second highest number of plant taxa of any floristic region in western Wyoming (Table 4), trailing only Yellowstone National Park. This high

TABLE 3. Jaccard's Index of Similarity for the flora of geographic subregions of the Wind River Range. Values across the top diagonal of the table are numbers of species shared between subregions, while values across the bottom diagonal are the Jaccard's Index of Similarity scores. Jaccard's Index is determined by the formula $j = c / (N_1 + N_2 - c)$ where c = number of taxa in common between two sites and N_1 and N_2 = the number of taxa in sites 1 and 2 respectively.

Subregion	Number of Taxa in Common									
	B	D	F	G	L	M	P	S	T	W
B		383	615	374	385	402	474	288	366	390
D	0.463		446	341	255	294	410	173	332	362
F	0.649	0.467		460	419	472	503	314	417	452
G	0.449	0.484	0.490		265	323	339	178	329	339
L	0.431	0.296	0.399	0.313		311	344	261	338	292
M	0.502	0.393	0.512	0.452	0.390		325	246	307	349
P	0.587	0.577	0.519	0.436	0.408	0.413		245	364	370
S	0.372	0.237	0.334	0.247	0.369	0.380	0.337		214	201
T	0.423	0.449	0.415	0.446	0.423	0.406	0.468	0.302		323
W	0.476	0.527	0.476	0.480	0.354	0.504	0.494	0.287	0.432	

Jaccard's Index of Similarity

Average Jaccard's Similarity

Rangewide: 0.428

Boulder Creek drainage (B): 0.484

Dinwoody Creek drainage (D): 0.432

Fremont Lake (F): 0.473

Green River Lakes (G): 0.422

Limestone Mountain (L): 0.375

Moccasin Basin (M): 0.439

Popo Agie River drainage (P): 0.471

South Pass (S): 0.318

Torrey Lake (T): 0.418

Warm Spring Creek (W): 0.448

TABLE 4. Species richness of selected floras of western Wyoming.

Flora	Number of Plant Taxa	Source
Absaroka Range	1182	Evert (2010), Kirkpatrick (1987); Rosenthal (1999); Snow (1994)
Great Divide Basin	877	Welp (1997)
Green River Basin	1047	Cramer (1997)
Gros Ventre Range	863	Lichvar (1979)
Targhee National Forest	1104	Markow (1994)
Grand Teton National Park and vicinity	1056	Kesonie & Hartman (2011); Shaw (1992); Spence & Shaw (1981)
Wind River Basin	885	Haines (1988)
Wind River Range	1282	This paper
Wyoming/Salt River ranges	1087	Hartman & Nelson (RM data)
Yellowstone National Park	1340	Whipple (2000, 2001)

species richness can be attributed to several factors. The Wind Rivers are one of the largest mountainous areas in the state, and ecologists have long recognized the correlation between species richness and increasing area (Rosenzweig 1995). The broad elevational range (1725 to 4208 m), diversity of geologic substrates (Precambrian granite and gneiss, Mesozoic calcareous formations, and volcanic outcrops), and wide variety of vegetation types also contribute to landscape heterogeneity and increased species richness. The intensity with which the Wind River Range has been surveyed for over 180 years (resulting in over 28,600 voucher specimens) is also a contributing factor to the richness of its flora.

Based on an analysis by Fertig (1992), the Absaroka Range has the most similar flora to that of the Wind River Range. Both have similar vegetation and elevational range, but differ in geologic substrate (the Absarokas are primarily volcanic). Geographic proximity may explain the high floristic similarity between adjacent mountain ranges, but does not account for the disparity in species richness between the Wind River Range and bordering desert basins. Floristic diversity in the Great Divide, Green River, and Wind River basins is lower than the Wind River Range in part due to their greater aridity (which restricts the diversity of forest and wet-

land habitats) and limited elevational range which precludes alpine tundra and subalpine forest communities. Likewise, the Wind Rivers have only a subset of the high desert or grassland species prevalent in basin areas (Fertig 1992).

With nearly one-half of its area protected as Wilderness, the Wind River Range plays a significant role in the conservation of Wyoming's native flora. Nearly 76 percent of all plant species known from the Wind Rivers (968 taxa) are found within the Bridger, Fitzpatrick, or Popo Agie wilderness areas, or other formally protected lands (Kendall Warm Springs Special Interest Area, BLM Special Status plants ACEC, or The Nature Conservancy's Red Canyon Ranch Preserve) (Fertig 1995a, 1995b). Of the 265 unprotected native species, all but 20 are protected elsewhere in the state (Fertig 2011). The majority of unprotected species occur at low elevations and are often uncommon within the Winds (including one-quarter of the 82 species of concern or potential concern). Most unprotected species occur at the north end, the southeast flank, or the far southern portions of the range.

ANNOTATED CHECKLIST

The checklist is sorted by major phylogenetic groups (fern allies, ferns, gymnosperms, and angiosperms), with families and species arranged alphabetically. Family taxonomy follows the classification of the Angiosperm Phylogeny Group (2009). Species nomenclature follows the RM Plant Specimen Database (Hartman et al. 2009), which itself is based on Dorn (2001) and more recent literature. Each species entry includes the current scientific name and authority, the number of specimens known from the study area (in parentheses), codes for geographic subregions within the Wind River Range, elevation range in meters, codes for vegetation types, and selected synonyms (limited to names used in earlier theses or in Dorn 2001 that differ from the currently accepted name). All vouchers are deposited at RM unless otherwise noted. Hybrid taxa are discussed under one of the parent species. Individual codes are explained below:

Symbols preceding taxon:

- * Species not native to Wyoming
- State of Wyoming noxious weed
- ◆ Species of conservation concern
- # Historical (not relocated since 1970)

Vegetation type:

- af** Aspen forest
- aq** Aquatic (submerged or emergent)
- at** Alpine tundra (includes upper timber-line)
- bd** Badlands
- bs** Big sagebrush grassland (includes shrub slopes)
- df** Douglas-fir forest
- dm** Dry meadows
- ds** Disturbed sites
- fw** Forest wetlands (includes narrowleaf cottonwood)
- gr** Granite or gneiss outcrops
- jw** Juniper woodland
- lf** Lodgepole pine forest
- lm** Limestone or calcareous outcrops
- lw** Limber pine woodlands
- ma** Marshes and bogs
- rs** Riparian shrub (non willow; includes silver sagebrush grassland)

- sa** Sand and gravel bars
- sf** Spruce-fir forest (includes blue spruce forests)
- wm** Wet meadows (forb dominated)
- wf** Whitebark pine forest
- wt** Willow thickets

Geographic regions within the study area

- B** Boulder Creek drainage (South Central/West)
- D** Dinwoody Creek Drainage (North Central/East)
- F** Fremont Lake (North Central/West)
- G** Green River Lakes
- L** Limestone Mountain (Southeast)
- M** Moccasin Basin
- P** Popo Agie River drainage (South Central/East)
- S** South Pass
- T** Torrey Lake (Northeast)
- W** Warm Spring Creek Drainage (North)

Sensitive or Candidate plant species

- BLM** = Bureau of Land Management
- BTNF** = Bridger-Teton National Forest
- USFS** = US Forest Service,
 - R2** = Region 2 (Rocky Mountain Region)
 - R4** = Region 4 (Intermountain Region)
- USFWS**: US Fish and Wildlife Service.

FERN ALLIES

Equisetaceae

Equisetum arvense L. (78) B, D, F, G, L, M, P, S, T, W; 2210–3500m; af, dm, ds, fw, lf, lm, ma, sa, sf, wm, wt.

Equisetum hyemale L. var. *affine* (Engelm.) A.A. Eaton (15) B, F, L, M, P, S; 1860–2925m; af, df, fw, ma, rs, sa, wt; (includes *E. × ferrissii*, a hybrid with *E. laevigatum*).

Equisetum laevigatum A. Braun (23) F, G, L, M, S, T, W; 1790–2670m; fw, ma, sa, wm, wt.

Equisetum variegatum Schleich. ex F. Weber & D. Mohr var. *variegatum* (14) F, G, M, W; 2290–2750m; ma, sa, wm, wt.

Isoëtaceae

Isoetes bolanderi Engelm. var. *bolanderi* (29) B, D, F, P, W; 2225–3460m; aq, sa.

Marsileaceae

◆# *Marsilea oligospora* Goodd. (2) F; 2350m; aq; (*M. vestita* var. *oligospora*).

Selaginellaceae

Selaginella densa Rydb. (69) B, D, F, G, L, M, P, S, T, W; 2200–4050m; af, at, bs, dm, gr, lf, lm, lw, sf, wf.

◆ *Selaginella selaginoides* (L.) Link (3) F, G; 2350–2440m, wm; USFS R2 Sensitive.

FERNS

Dryopteridaceae (Aspleniaceae)

Athyrium alpestre (Hoppe) Clairv. var. *americanum* Butters (1) D; 3240–3420m; gr.

Athyrium filix-femina (L.) Roth ex Mert. (1) W; 2600–2690m; fw.

Cystopteris fragilis (L.) Bernh. (77) B, D, F, G, L, M, P, S, T, W; 2160–3960m; af, at, bs, df, dm, fw, gr, lm, lw, sa, sf, wf, wm, wt.

Woodsia oregana D.C. Eaton var. *oregana* (8) B, D, G, L, P, S, T; 1960–2860m; gr, lm.

Woodsia scopulina D.C. Eaton (14) B, D, F, L, P, T; 2250–3410m; af, df, gr, lm, sf, wf.

Ophioglossaceae

◆# *Botrychium lanceolatum* (S.G. Gmel.) Angstr. var. *lanceolatum* (1) P; 2680m; dm.

Botrychium lunaria (L.) Sw. (2) F, G; 3200–3475m; gr, lm.

Botrychium multifidum (S.G. Gmel.) Trevisan (2) B, F; 2770–2830m; fw.

Pteridaceae (Adiantaceae)

Cheilanthes feei T. Moore (4) G, L; 1850–3050m, lm.

Cryptogramma acrostichoides R. Br. (33) B, D, F, P, W; 2440–3720m; at, dm, gr, lf, sf.

◆# *Cryptogramma stelleri* (S.G. Gmel.) Prantl (1) W; 2650m, lm.

Pellaea breweri D.C. Eaton (1) L; 2330–2560m; lm.

Pellaea glabella Mett. ex Kuhn var. *occidentalis* (E.E. Nelson) Butters (6) L; 1850–2865m; lm; (*P. occidentalis*).

GYMNOSPERMS

Cupressaceae

Juniperus communis L. var. *depressa* Pursh (102) B, D, F, G, L, M, P, S, T, W; 2175–3795m; af, bs, df, dm, fw, gr, lf, lw, sf, wf, wm, wt.

Juniperus osteosperma (Torr.) Little (3) L; 1725–1915m; jw, lm, lw.

Juniperus scopulorum Sarg. (56) B, D, F, L, P, S, T; 1725–3120m; af, bs, df, dm, ds, fw, gr, jw, lf, lw, rs, sa.

Pinaceae

Abies bifolia A. Murray bis (51) B, D, F, G, L, M, P, T, W; 2430–3600m; af, at, dm, fw, gr, lf, sf, wf, wm; (*A. lasiocarpa*).

Picea engelmannii Parry ex Engelm. var. *engelmannii* (86) B, D, F, G, L, M, P, T, W; 2310–3520m; af, at, dm, fw, gr, lf, lm, lw, sf, wf, wm.

Picea glauca (Moench) Voss (1) D; 3140m; wt.

Picea pungens Engelm. (11) B, F, M, T; 2300–2590m; fw, lf, sa, sf.

◆ *Pinus albicaulis* Engelm. (56) B, D, F, G, M, P, T, W; 2530–3680m; at, bs, dm, gr, lf, sf, wf, wm; USFWS: Candidate, USFS R2 & WY BLM Sensitive.

Pinus contorta Douglas ex Loud. var. *latifolia* Engelm. (85) B, D, F, L, M, P, S, T, W; 2200–3170m; af, bs, df, dm, ds, fw, gr, lf, rs, sa, sf, wf, wm.

◆ *Pinus flexilis* E. James (59) B, D, F, G, L, M, P, S, T, W; 1725–3520m; af, bs, df, dm, gr, jw, lf, lm, lw; WY BLM Sensitive.

Pseudotsuga menziesii (Mirb.) Franco var. *glauca* (Beissn.) Franco (43) B, F, G, L, P, S, T; 1860–3520m; af, bs, df, dm, ds, gr, lf, lm, lw.

ANGIOSPERMS

Adoxaceae (Caprifoliaceae)

Sambucus racemosa L. var. *melanocarpa* (A. Gray) McMinn (16) B, D, F, G, L, T, W; 2325–3475m; bs, dm, fw, gr, wm.

Sambucus racemosa L. var. *microbotrys* (Rydb.) Kearney & Peebles (27) B, D, F, L, P, T, W; 2375–3365m; af, dm, fw, gr, lf, ma, wf.

Alismataceae

Sagittaria cuneata E. Sheld. (9) B, F, M, P; 2225–2900m; aq, wt.

Alliaceae (Liliaceae)

Allium acuminatum Hook. (8) B, D, F, G; 2255–3140m; bd, bs, lf, sf.

Allium brandegeei S. Watson (15) B, F; 2375–3600m; af, at, bd, bs, dm, fw, gr, lf, sf, wf.

Allium brevistylum S. Watson (15) B, F, G, M, P; 2300–3050m; bd, bs, fw, lf, lm, sa, wm, wt.

Allium cernuum Roth (11) D, L, T, W; 2250–3000m; bs, wt.

Allium geyeri S. Watson var. *tenerum* M. E. Jones (10) B, F, L, M, S; 2200–2745m; af, bs, dm, fw, wm.

Allium schoenoprasum L. (51) B, D, F, G, L, P, T; 2250–3535m; af, at, bs, dm, fw, gr, ma, rs, sa, sf, wm, wt.

Allium textile A. Nelson & J.F. Macbr. (22) B, L, M, S, T, W; 1850–2590m; bs, df, dm, gr, wm.

Amaranthaceae (Chenopodiaceae)

Amaranthus powellii S. Watson (2) T; 1770–2255m; ds.

Atriplex truncata (Torr. ex S. Watson) A. Gray (1) S; 2350m; rs, wm.

* *Chenopodium album* L. var. *album* (2) M; 2290–2380m; ds.

Chenopodium atrovirens Rydb. (24) B, D, F, G, L, M, P, T, W; 2255–3560m; af, bs, dm, ds, lf, lm, rs, sa, wm, wt.

Chenopodium berlandieri Moq. var. *zschackei* (Murr) Murr ex Asch. (2) F, T; 2290m; ds.

Chenopodium capitatum (L.) Ambrosi var. *parvicapitatum* Welsh (24) B, F, G, M, T, W; 2290–2925m; bs, dm, ds, lf, lm, ma, sa, sf, wf, wm; (*C. overi*).

Chenopodium fremontii S. Watson (5) T; 2290–2500m; dm.

Chenopodium leptophyllum (Moq.) Nutt. ex S. Watson (1) B; 2225m; bs.

Chenopodium pratericola Rydb. (4) B, F, G; 2225–2740m; ds, lf, lm.

* *Kochia scoparia* (L.) Schrad. (2) F; 2195–2290m; ds; (*Bassia sieversiana*, *B. scoparia*).

Krascheninnikovia lanata (Pursh) A. Meeuse & A. Smit (2) L, M; 1765–2350m; bs.

Monolepis nuttalliana (Schult.) Greene (22) B, F, M, S, T, W; 2290–2990m; af, bs, dm, ds, lf, rs, sf.

* *Salsola tragus* L. (4) B, F, S, T; 2195–2315m; bs, ds.

Anacardiaceae

Rhus trilobata Nutt. var. *trilobata* (10) L; 1700–2520m; bs, ds, jw, lm; (*R. aromatica* var. *trilobata*).

Toxicodendron rydbergii (Small ex Rydb.) Greene (5) L; 1850–2475m; bs, dm, jw.

Apiaceae

Angelica pinnata S. Watson (50) B, D, F, G, M, T, W; 2285–3790m; dm, fw, lf, ma, sa, sf, wf, wm, wt.

Bupleurum americanum J.M. Coult. & Rose (30) G, L, M, T, W; 2260–3350m; at, bd, bs, dm, fw, lm.

* *Carum carvi* L. (3) L, P; 1890–2630m; dm, ds, wm.

Cicuta maculata L. var. *angustifolia* Hook. (1) F; 2195m; ds.

Cymopterus acaulis (Pursh) Raf. (3) L, T; 1765–2895m; bs.

Cymopterus longilobus (Rydb.) W.A. Weber (33) B, D, L, P, S, T; 1960–3815m; at, bs, df, dm, fw, gr, jw, lm, lw, sf, wf, wm.

Cymopterus longipes S. Watson (21) B, F, G, S; 2315–3415m; af, at, bs, df, dm, gr, lm.

Cymopterus nivalis S. Watson (11) T; 2330–3525m; bs, df, dm, lw.

Cymopterus terebinthinus (Hook.) Torr. & A. Gray var. *albiflorus* (Torr. & A. Gray) M.E. Jones (36) B, F, G, L, M, S, W; 1725–3500m; af, at, bd, bg, dm, ds, gr, jw, lm, lw.

Heracleum maximum Bartr. (40) B, D, F, G, L, M, P, S, T, W; 1860–3425m; af, at, bs, dm, fw, gr, rs, wm, wt; (*H. sphondylium* var. *lanatum*).

Ligusticum filicinum S. Watson (33) D, F, G, M, T, W; 2340–3350m; bs, dm, gr, lf, lm, sf, wf, wm.

Lomatium cous (S. Watson) J.M. Coult. & Rose (71) B, D, F, G, L, M, P, T, W; 2380–3840m; af, at, bs, dm, gr, lm, sf, wf, wm.

Lomatium dissectum (Nutt.) Mathias & Constance var. *multifidum* (Nutt.) Mathias & Constance (38) B, F, L, P, S, T; 1860–2925m; af, bs, dm, ds, gr, lm, lw, wm, wt.

Lomatium foeniculaceum (Nutt.) J.M. Coult. & Rose var. *foeniculaceum* (3) L, M; 2375m; bs.

Lomatium macrocarpum (Nutt. ex Torr. & Gray) J.M. Coult. & Rose (1) F; 2285m; ds.

Lomatium orientale J.M. Coult. & Rose (37) L, P, S, T; 1765–3170m; bs, dm, ds, gr.

Lomatium triternatum (Pursh) J.M. Coult. & Rose var. *platycarpum* (Torr.) Boivin (108) B, D, F, G, L, M, P, S, T, W; 1850–3170m; af, bd, bs, df, dm, ds, gr, jw, lf, lm, lw.

Musineon tenuifolium Nutt. ex Torr. & A. Gray (1) L; 1960–1990m; bs.

Orogenia linearifolia S. Watson (3) F; 2375m; af, bs.

Osmorhiza chilensis Hook. & Arn. (4) B, L; 1860–2315m; af, df, rs; (*O. berteroi*).

Osmorhiza depauperata Phil. (65) B, D, F, G, L, M, P, T, W; 2255–3500m; af, at, df, dm, ds, fw, gr, lf, sf, wf, wm, wt.

Perideridia montana (Blank.) Dorn (34) B, F, L, M, P, S, W; 2255–2745m; bs, dm, ds, lf, rs, wm, wt.

Sium suave Walter (3) P; 2680m; aq.

Zizia aptera (A. Gray) Fernald (12) F, G, W; 2290–2470m; bs, ma, wm, wt.

Apocynaceae (Asclepiadaceae)

Apocynum androsaemifolium L. (13) B, F, L, P, T, W; 1860–2925m; af, bs, dm, fw, lf, sf.

Apocynum cannabinum L. (1) L; 1950m; bs.

Asclepias speciosa Torr. (1) F; 2375m; ds.

Araceae (Lemnaceae)

lemna minor L. (7) B, F, W; 2255–2500m; aq; (*L. turionifera*).

Lemna trisulca L. (3) F, W; 2375–2745m; aq.

Asparagaceae (Convallariaceae, Liliaceae)

maianthemum racemosum (L.) Link var. *amplexicaule* (Nutt.) Dorn (4) B, F, L; 2065–2745m; af, df, dm, lf.

Maianthemum stellatum (L.) Link (29) B, F, G, L, M, P, S, T, W; 1790–3110m; af, bs, df, dm, fw, lf, lm, rs, sa, wm, wt.

Asteraceae

achillea millefolium L. (147) B, D, F, G, L, M, P, S, T, W; 1725–3790m; af, at, bs, dm, ds, fw, gr, lf, lm, ma, sa, sf, wf, wm, wt.

*● *Acroptilon repens* (L.) DC. (1) L; 2195m; ds; (*Centaurea repens*).

Agoseris aurantiaca (Hook.) Greene (34) B, D, F, G, M, P, W; 2315–3500m; al, bs, dm, fw, gr, lf, lm, ma, wm.

Agoseris glauca (Pursh) Raf. var. *dasycephala* (Torr. & A. Gray) Jeps.

(131) B, D, F, G, L, M, P, T, W; 2065–3790m; af, at, bd, bs, df, dm, ds, fw, gr, lf, lm, lw, ma, sf, wf, wm, wt.

Agoseris glauca (Pursh) Raf. var. *glauca* (12) B, F, M, P, S; 2315–3170m; bs, dm, sf, wf, wm, wt.

◆ *Agoseris lackschewitzii* D.M. Henderson & R. Moseley (16) B, D, F, P, W; 2760–3520m; fw, ma, wm, wt; USFS R4 Sensitive.

Agoseris parviflora (Nutt.) D. Dietrich (28) B, D, F, L, M, P, S, T, W; 2160–3710m; bs, dm, fw, jw, lw, wm; (*A. glauca* var. *laciniata*).

Anaphalis margaritacea (L.) Benth. & Hook. (18) B, D, F, M, P, W; 2440–3120m; af, dm, fw, gr, lf, sf, wf, wm.

Antennaria anaphaloides Rydb. (30) F, G, L, M, T; 1790–3200m; af, bd, bs, df, dm, jw, lm, wm, wt.

◆ *Antennaria arcuata* Cronq. (4) F, S; 2245–2410m; dm, wm; USFS R4 & WY BLM Sensitive.

◆ *Antennaria aromatica* Evert (6) G, T; 2990–3415m; lm.

Antennaria corymbosa E.E. Nelson (81) B, D, F, M, P, T, W; 2440–3795m; at, bs, dm, fw, gr, lf, ma, rs, sf, wf, wf, wm wt.

Antennaria dimorpha (Nutt.) Torr. (16) B, F, L, S; 2210–2635m; bs, dm, gr.

Antennaria lanata (Hook.) Greene (1) G; 2835–2895m; wm.

Antennaria media Greene (71) B, D, F, G, M, P, W; 2775–4110m; at, bs, dm, fw, gr, lm, sf, wf, wf, wm, wt.

Antennaria microphylla Rydb. (82) B, D, F, G, L, M, P, S, T, W; 2285–3720m; at, bd, bs, df, dm, ds, gr, lf, lm, ma, rs, sa, sf, wf, wf, wm, wt.

◆ *Antennaria monocephala* DC. ssp. *angustata* (Greene) Hulten (11) D, F, W; 2865–3960m; at, dm, gr.

Antennaria parvifolia Nutt. (12) B, F, G, L, P, T; 1850–2800m; bs, df, dm, fw, gr, lf, lw, sf, wf, wf.

Antennaria pulcherrima (Hook.) Greene (12) F, G, L, M, W; 2290–2530m; bs, dm, ma, wm, wt.

Antennaria racemosa Hook. (26) D, F, G, M, T, W; 2440–3200m; bs, df, fw, gr, lf, sf, wf, wf.

Antennaria rosea Greene (95) B, D, F, G, L, M, P, S, T, W; 2175–3535m; af, at, bd, bs, df, dm, ds, fw, gr, lf, lm, lw, ma, sa, sf, wf, wf, wf.

Antennaria umbrinella Rydb. (144) B, D, F, G, L, M, P, S, T, W; 1725–3710m; af, at, bs, df, dm, ds, gr, lf, rs, sf, wf, wf, wf, wf.

◆ *Arnica angustifolia* Vahl var. *tomentosa* (Macoun) Dorn (4) D, T; 3385–3710m; at.

Arnica chamissonis Less. (36) B, D, F, G, M, P, S, T, W; 2285–3425m; bs, dm, ds, fw, gr, lf, sa, wf, wf.

Arnica cordifolia Hook. (136) B, D, F, G, L, M, P, S, T, W; 1850–3500m; af, at, bs, df, dm, ds, fw, gr, lf, sf, wf, wf, wf, wf.

Arnica fulgens Pursh (9) B, L, M, T; 2205–2835m; af, bs, dm, lf.

Arnica gracilis Rydb. (18) B, D, F, G, P; 2680–3720m; at, dm, gr, sf, wf.

Arnica lanceolata Nutt. ssp. *prima* (Maguire) Strother & S.J. Wolf (1) B; 2620–2800m; af, fw; (*A. amplexicaulis*).

Arnica latifolia Bong. (41) B, D, F, G, L, P, T, W; 2310–3795m; at, df, dm, fw, gr, lf, sf, wf, wf.

Arnica longifolia D.C. Eaton (20) B, D, F, G, M; 2375–3565m; bs, dm, fw, gr, lf, lm, sf, wf, wf.

Arnica mollis Hook. (86) B, D, F, G, L, M, P, W; 2440–3720m; at, bs, dm, fw, gr, ma, sa, sf, wf, wf, wf, wf; (includes *A. ovata*).

Arnica parryi A. Gray (4) F, M; 2560–3230m; dm, lf, sf, wf.

Arnica rydbergii Greene (72) B, D, F, G, L, M, P, T, W; 1960–3965m; af, at, dm, fw, gr, lf, lm, ma, sf, wf, wf, wf.

Arnica sororia Greene (12) B, F, G, L, M; 2065–2555m; af, bs, df, dm, gr, lm.

Artemisia arbuscula Nutt. var. *arbuscula* (3) M; 2375–2590m; bs, dm.

Artemisia arbuscula Nutt. var. *longiloba* (Osterh.) Dorn (3) P, S; 2375–2615m; bs.

Artemisia biennis Willd. var. *biennis* (1) F; 2375–2410m; sa.

Artemisia campestris L. var. *pacifica* (Nutt.) M. Peck (2) F, L; 2255–2285m; bs, ds; (var. *scouleriana*).

Artemisia cana Pursh var. *cana* (1) L; 2285m; rs.

- Artemisia cana* Pursh var. *viscidula* Osterh. (31) F, G, L, M, S, T, W; 1725–3230m; bs, rs, wm, wt.
- Artemisia dracunculus* L. (18) D, F, G, M, S; 2285–3120m; af, bd, bs, dm, gr, sa, wm.
- Artemisia frigida* Willd. (25) D, F, L, M, P, S, T, W; 2285–3175m; bd, bs, gr.
- Artemisia ludoviciana* Nutt. var. *incompta* (Nutt.) Cronq. (4) D, F; 2440–3120m; gr, sa.
- Artemisia ludoviciana* Nutt. var. *latiloba* Nutt. (12) F, G, M, W; 2375–3410m; bs, dm, ds, lf, lm, rs, wm, wt.
- Artemisia ludoviciana* Nutt. var. *ludoviciana* (6) B, F, L; 1960–2375m; bs, fw, sa, wm.
- Artemisia michauxiana* Bess. (9) D, F, G, P, T; 2500–3230m; bs, fw, gr.
- Artemisia norvegica* Fries var. *saxatilis* (Bess.) Jeps. (15) D, F, G, W; 2440–3600m; at, dm, fw, gr, wf, wt.
- Artemisia nova* A. Nelson (2) L; 1860–1980m; jw.
- Artemisia scopulorum* A. Gray (70) B, D, F, G, P, T, W; 2820–4110m; at, dm, gr, sf, wm.
- Artemisia tridentata* Nutt. var. *tridentata* (2) F, L; 2255–2745m; bs, dm.
- Artemisia tridentata* Nutt. var. *vaseyana* (Rydb.) B. Boivin (47) B, D, F, G, L, M, S, T, W; 2570–2995m; af, bs, dm, ds, lf, rs, sa.
- Artemisia tridentata* Nutt. var. *wyomingensis* (Beetle & Young) Welsh (1) S; 2480m; bs.
- Artemisia tripartita* Rydb. var. *rupicola* (Beetle) Dorn (7) L, P; 1850–3170m; bs, dm, ds.
- Balsamorhiza incana* (Nutt.) (43) B, L, P, S, T; 1725–3170m; bs, dm, ds, gr, jw; (includes hybrids with *B. sagittata*).
- Balsamorhiza sagittata* (Pursh) Nutt. (51) B, F, L, M, P, S, T, W; 1960–3295m; af, bs, dm, ds, gr, jw, lf, lw.
- Brickellia grandiflora* (Hook.) Nutt. (2) F; 2680–3050m; gr.
- *● *Carduus nutans* L. (7) F, L; 1960–2430m; bs, ds.
- * # *Centaurea scabiosa* L. (1) L; 1675m; ds.
- *● *Centaurea stoebe* L. ssp. *micranthos* (S. G. Gmelin ex Gugler) Hayek (2) L; 1980m; ds; (*C. maculosa*).
- Chaenactis douglasii* (Hook.) Hook. & Arn. var. *alpina* A. Gray (15) D, F, G, P, S, T; 2370–3810m; at, bs, dm, gr, lm; (*C. alpina* vars. *alpina* & *leucopsis*).
- Chaenactis douglasii* (Hook.) Hook. & Arn. var. *douglasii* (35) B, F, L, M, P, S, T; 1725–2860m; bd, bs, dm, ds, fw, gr, jw, lw (var. *montana*).
- Chrysothamnus viscidiflorus* (Hook.) Nutt. var. *lanceolatus* (Nutt.) Greene (34) B, F, G, L, M, P, S, T, W; 1960–2800m; bd, bs, dm, ds, lm, rs.
- Chrysothamnus viscidiflorus* (Hook.) Nutt. var. *viscidiflorus* (13) B, F, M, P, S; 2195–2745m; bd, bs, ds.
- * *Cichorium intybus* L. (1) B; 2560–2620m; ds.
- *● *Cirsium arvense* (L.) Scop. (16) B, F, L, M, P, T; 1960–2630m; ds, fw, ma, sa, wm.
- Cirsium eatonii* (A. Gray) B.L. Rob. (23) D, F, G, M, P, T, W; 2680–3600m; bs, df, dm, fw, gr, lm, sf.
- Cirsium hookerianum* Nutt. (11) L, T; 1725–3155m; bs, dm, jw, rs.
- Cirsium inamoenum* (Greene) D.J. Keil var. *davisii* (Cronq.) D.J. Keil; (2) L, S; 2390–2730m; af, bs; (*C. subniveum*).
- Cirsium inamoenum* (Greene) D.J. Keil var. *inamoenum* (1) F; 2500–2990m; bs; (*C. subniveum*).
- Cirsium pulcherrimum* (Rydb.) K. Schum. var. *pulcherrimum* (6) L; 1740–2590m; bs, dm, lm.
- Cirsium scariosum* Nutt. var. *coloradense* (Rydb.) D.J. Keil (1) S; 2375m; ma.
- Cirsium scariosum* Nutt. var. *scariosum* (36) B, D, F, G, L, M, P, T, W; 2210–3230m; af, bs, dm, lf, lw, ma, sa, sf, wm, wt.
- Cirsium undulatum* (Nutt.) Spreng. (2) L; 1860m; bs, sa.
- * *Cirsium vulgare* (Savi) Ten. (2) F; 2350–2375m; bs, sa.
- Crepis acuminata* Nutt. (38) B, F, G, L, M, P, S, T, W; 1725–3165m; bs, dm, ds, lm.
- Crepis atribarba* A. Heller (15) B, F, G, M, P, W; 2255–3110m; af, bs, dm, lf, lm, sf.
- Crepis elegans* Hook. (4) M, W; 2345–2795m; dm, sa.
- # *Crepis intermedia* A. Gray (1) F; 2375m bs.
- Crepis modocensis* Greene var. *modocensis* (22) B, F, L, M, P, S, T; 2065–2885m; bs, dm, gr.
- Crepis nana* Richardson (2) G; 2440–3200m; at, sa.
- Crepis occidentalis* Nutt. var. *costata* A. Gray (5) L; 1725–2255m; bs, ds, jw.
- Crepis occidentalis* Nutt. var. *occidentalis* (1) L; 1725–1915m; bs.
- # *Crepis runcinata* (E. James) Torr. & A. Gray var. *hispidulosa* Howell ex Rydb. (2) F; 2165–2410m; wm.
- Crepis runcinata* (E. James) Torr. & A. Gray var. *runcinata* (5) B, F, G, P; 2375–2615m; lf, ma, wm.
- * *Crepis tectorum* L. (1) M; 2440–2560m; lf.
- Cyclachaena xanthifolia* (Nutt.) Fresen. (1) L; 1960–1980m; ds; (*Iva xanthifolia*).
- Dieteria canescens* (Pursh) Nutt. var. *canescens* (36) B, D, F, G, L, M, P, S, T, W; 2175–2745m; bd, bs, dm, ds, lf, lm, sa; (*Machaeranthera canescens* var. *canescens*, includes var. *monticola*).
- ◆ *Ericameria discoidea* (Nutt.) Nesom var. *linearis* (Rydb.) Nesom (9) G, M; 2345–2530m; bd, bs, dm, sa; (*Haplopappus macronema* var. *linearis*); USFS R4 Sensitive.
- Ericameria nauseosa* (Pall. ex Pursh) G.L. Nesom & G.I. Baird var. *graveolens* (Nutt.) Reveal & Schuyler (2) T; 2255m; bs; (*Chrysothamnus nauseosus* var. *graveolens*).
- Ericameria nauseosa* (Pall. ex Pursh) G.L. Nesom & G.I. Baird var. *nauseosa* (22) B, F, L, M, S, T; 2080–2745m; bs, dm, ds; (*Chrysothamnus nauseosus* var. *nauseosus*).
- Ericameria nauseosa* (Pall. ex Pursh) G.L. Nesom & G.I. Baird var. *oreophila* (A. Nelson) G.L. Nesom & G.I. Baird (2) P, S; 2480–2615m; bs; (*Chrysothamnus nauseosus* var. *oreophilus*).
- Erigeron acris* L. var. *kamtschaticus* (DC.) Herder (10) B, D, F, G, L, P, W; 2500–3390m; fw, gr, lm, sf, wm.
- Erigeron caespitosus* Nutt. (16) L, P, S, T; 1725–2900m; bs, dm, jw, lm.
- Erigeron compositus* Pursh (121) B, D, F, G, L, M, P, S, T, W; 1850–3960m; af, at, bd, bs, dm, ds, gr, lf, lm, lw, sa, sf, wm.
- Erigeron concinnus* (Hook. & Arn.) Torr. & A. Gray var. *concinnus* (5) F, M, S; 2315–2440m; bs; (*E. pumilus* var. *concinnus*).
- Erigeron corymbosus* Nutt. (14) B, F, L, M, P, T, W; 1725–2860m; af, bs, ds, lf, sa, wm, wt.
- Erigeron divergens* Torr. & A. Gray (3) B, L; 1860–2560m; bs, dm.
- Erigeron eatonii* A. Gray var. *eatonii* (78) B, D, F, G, L, M, P, S, T, W; 2065–3415m; af, at, bs, dm, ds, fw, gr, lf, lw, sf, wf.
- Erigeron engelmannii* A. Nelson var. *engelmannii* (19) B, F, L, S; 1790–2500m; bs, dm.
- Erigeron formosissimus* Greene var. *formosissimus* (3) B, D; 2745–3230m; dm, fw.
- Erigeron formosissimus* Greene var. *viscidus* (Rydb.) Cronquist (1) G; 2440–2680m; lf.
- Erigeron glabellus* Nutt. var. *glabellus* (10) B, F, L, M, S; 1725–2895m; bs, dm, ds, fw, sa, wt.
- Erigeron glacialis* (Nutt.) A. Nelson var. *glacialis* (103) B, D, F, G, L, M, P, S, T, W; 2255–3840m; at, dm, fw, gr, lf, ma, sf, wf, wm, wt; (*E. peregrinus* var. *scaposus*).
- Erigeron gracilis* Rydb. (27) B, F, G, M, T, W; 2285–3050m; bs, df, dm, ds, gr, lf, sf, wm.
- Erigeron grandiflorus* Hook. (85) B, D, F, G, M, P, T, W; 2660–4050m; at, dm, fw, gr, lm, wm, wt; (*E. simplex*).
- ◆ *Erigeron humilis* Grah. (3) D, F; 2950–3960m; at, dm, gr, wm.
- ◆ *Erigeron lanatus* Hook. (5) G; 3230–3500m; lm; USFS R4 Sensitive.
- Erigeron leiomerus* A. Gray (29) D, F, G, M, P, T, W; 2800–3535m; at, bs, dm, gr, lm.
- Erigeron linearis* (Hook.) Piper (6) B, F, S, T; 2285–3525m; bs, df.

- Erigeron lonchophyllus* Hook. (26) D, F, G, L, M, S, W; 2285–3050m; bs, dm, ds, gr, lf, lm, sa, wm, wt.
- Erigeron nivalis* Nutt. (42) B, D, F, G, L, P, T; 2255–3475m; af, bs, df, dm, fw, gr, lf, lm, ma, sa, sf, wf, wm; (*E. acris* var. *debilis*).
- Erigeron ochroleucus* Nutt. (30) B, D, F, G, L, M, P, S, T, W; 1725–3295m; at, bs, df, dm, fw, gr, lm, lw, sf, wm (includes vars. *ochroleucus* & *scribneri*).
- Erigeron pumilus* Nutt. var. *pumilus* (1) T; 2225m; bs.
- Erigeron radicans* Hook. (5) G, T; 2435–3525m; at, bs, dm, lm.
- Erigeron rydbergii* Cronq. (9) B, L, P; 2610–4025m; dm, gr, lm.
- Erigeron speciosus* (Lindl.) DC. (20) B, D, F, G, M; 2315–3350m; bd, bs, dm, fw, lf, lm, mr, sa, sf, wm, wt; (includes *E. subtrinervis* var. *conspicuus*).
- Erigeron tener* A. Gray (3) G, S; 2285–2745m; gr, lm.
- Erigeron ursinus* D.C. Eaton (64) B, D, F, G, M, P, T, W; 2550–3660m; af, at, bs, dm, ds, gr, lf, lm, sf, wm, wt.
- Eriophyllum lanatum* (Pursh) Forbes var. *integrifolium* (Hook.) Smiley (40) D, F, G, M, W; 2315–3170m; af, bd, bs, dm, lm, sf.
- Eucephalus engelmannii* (D.C. Eaton) Greene (15) B, D, F, G, M, W; 2375–3230m; dm, fw, gr, lf, sf, wf; (*Aster engelmannii*).
- Eucephalus perelegans* (A. Nelson & J.F. Macbr.) W.A. Weber (21) B, F, G, L, M, P; 2250–3080m; af, bd, bs, df, dm, fw, lf, sa, sf; (*E. elegans*, *Aster perelegans*).
- Eurybia conspicua* (Lindl.) G.L. Nesom (1) M; 2440–2560m; dm; (*Aster conspicuus*).
- Eurybia integrifolia* (Nutt.) G.L. Nesom (28) B, D, F, M, W; 2375–3050m; bs, dm, ds, ma, rs, wm, wt; (*Aster integrifolius*).
- Eurybia merita* (A. Nelson) G.L. Nesom (2) M; 2440–2960m; lf, wm; (*Aster meritus*, *A. sibiricus*).
- Gaillardia aristata* Pursh (9) L, P; 1860–2430m; bs, df, dm.
- Gnaphalium palustre* Nutt. (11) B, F, M, S; 2290–2620m; bs, fw, sa, wm.
- Grindelia hirsutula* Hook. & Arn. (1) T; 2290m; ds; (*G. squarrosa* var. *quasiperennis*).
- Grindelia squarrosa* (Pursh) Dunal (4) F, L, S, T; 2255–2600m; ds; (var. *squarrosa*).
- Helianthella quinquenervis* (Hook.) A. Gray (25) B, D, F, G, M, P, T, W; 2440–3170m; af, bs, dm, lf, sf.
- Helianthella uniflora* (Nutt.) Torr. & A. Gray (16) B, F, G, M; 2255–3110m; af, bd, bs, dm, gr, lf, sa.
- Helianthus annuus* L. (1) L; 1960–1980m; ds.
- Heliomeris multiflora* Nutt. var. *multiflora* (3) F; 2380–2745m; bd, bs, sa; (*Viguiera multiflora*).
- Herrickia glauca* (Nutt.) Brouillet var. *glauca* (22) B, F, G, L, M, P, T; 2315–3415m; af, bd, bs, df, dm, ds, fw, gr, lm, sa, sf; (*Aster glaucodes*; *Eucephalus glaucus*).
- Heterotheca depressa* (Rydb.) Dorn (2) M; 2345–2380m; sa.
- Heterotheca horrida* (Rydb.) V.L. Harms (1) L; 1960–1990m; jw; (*H. villosa* var. *nana*).
- Heterotheca villosa* (Pursh) Shinnars var. *villosa* (5) L; 1835–2520m; dm; (includes var. *minor*).
- Hieracium albiflorum* Hook. (25) B, F, G, L, M, P, W; 2335–3365m; bs, dm, fw, lf, sf, wf, wm.
- Hieracium scouleri* Hook. (7) B, F, L, M; 2375–3230m; bd, dm, ds, lf, sa; (includes *H. cynoglossoides*).
- Hieracium triste* Willd. ex Spreng. var. *gracile* (Hook.) A. Gray (58) B, D, F, M, P, W; 2530–3960m; at, dm, fw, gr, lf, sf, wf, wm; (*H. gracile*).
- Hymenopappus polycephalus* Osterh. (6) L, T; 1725–1915m; bs, jw.
- Hymenoxys grandiflora* (Torr. & A. Gray ex A. Gray) K.L. Parker (81) B, D, F, G, L, P, T, W; 2550–3960m; at, dm, gr, lm.
- Hymenoxys hoopesii* (A. Gray) Bierner (34) D, F, G, M, T, W; 2285–2950m; bs, dm, fw, ma, sa, wm, wt; (*Dugaldia hoopesii*, *Helenium hoopesii*).
- Hymenoxys richardsonii* (Hook.) Cock. var. *richardsonii* (4) L; 2600–2860m; dm.
- * *Lactuca serriola* L. (8) B, F, L; 2080–2685m; af, bs, ds, sa.
- *● *Leucanthemum vulgare* Lam. (2) B, F; 2620–2835m; af, ds; (*Chrysanthemum leucanthemum*).
- Ligularia amplexens* (A. Gray) Weber var. *holmii* (Greene) Dorn (24) D, F, G, M, W; 2800–3960m; at, dm, gr, lm; (*Senecio amplexens* var. *holmii*).
- Madia glomerata* Hook. (3) F, M; 2375–2440m; dm, ds.
- Matricaria discoidea* DC. (27) B, F, L, M, P, W; 2210–2865m; af, bs, ds, lf, wm; (*M. matricarioides*).
- Microseris nutans* (Hook.) Sch. Bip. (43) B, F, G, L, M, P, S; 1725–2875m; af, bs, dm, ds, gr, lf, lm, lw.
- Mulgedium pulchellum* (Pursh) G. Don (3) M, T; 2440–2745m; bs, wm; (*Lactuca oblongifolia*).
- Nothocalais nigrescens* (L.F. Hend.) A. Heller (30) B, D, F, G, L, M, P, T, W; 2375–3600m; at, bs, dm, ma, rs, sa, wm, wt.
- Oreostemma alpigenum* (T. & G.) Greene var. *haydenii* (Porter) Nesom (73) B, D, F, G, M, P, T, W 2500–3840m; at, bs, dm, gr, lm, sf, wf, wm, wt; (*Aster alpigenus* var. *haydenii*).
- Packera cana* (Hook.) W.A. Weber & Á. Löve (82) B, D, F, G, L, M, P, S, T, W; 1725–3795m; at, bd, bs, df, dm, ds, gr, jw, lm, lw; (*Senecio canus*).
- Packera debilis* (Nutt.) W.A. Weber & Á. Löve (5) G, T; 2255–2440m; ma; (*Senecio debilis*).
- Packera dimorphophylla* (Greene) W.A. Weber & Á. Löve var. *paysonii* (Barkley) Trock & Barkley (5) B, G, W; 2680–3535m; lm, sf, wt; (*Senecio dimorphophyllus* var. *paysonii*).
- Packera multilobata* (Torr. & A. Gray ex A. Gray) Weber & Löve (11) B, F, M, S; 2315–2620m; bs, dm, gr, rs; (*Senecio multilobatus*).
- Packera pauciflora* (Pursh) Löve & Löve (11) B, D, F, P; 2500–3225m; dm, lf, ma, sf, wf, wm, wt; (*Senecio pauciflorus*).
- Packera paupercula* (Michx.) Á. Löve & D. Löve (20) B, D, F, L, M, P, S, T; 2255–2865m; bs, fw, sa, wm, wt; (*Senecio pauperculus*).
- Packera streptanthifolia* (Greene) W.A. Weber & Á. Löve (82) B, D, F, G, L, M, P, S, T, W; 2175–3795m; af, bd, bs, dm, ds, gr, lf, lm, ma, sf, wf, wm; (*Senecio streptanthifolius*; includes vars. *borealis*, *oodes*, and *rubricaulis*).
- Packera subnuda* (DC.) Trock & Barkley (53) B, D, F, P, W; 2680–3790m; at, fw, lf, ma, sa, wm, wt; (*Senecio cymbalarioides*).
- Packera wernerifolia* (A. Gray) W.A. Weber & Á. Löve (2) D, G; 3340–3710m; at, lm; (*Senecio wernerifolius*, includes vars. *alpinus* & *wernerifolius*).
- Psilocarphus brevissimus* Nutt. var. *brevissimus* (2) F; 2285m; dm.
- ◆ *Pyrrocoma clementis* Rydb. var. *clementis* (3) L, P; 2605–2970m; bs, dm.
- ◆ *Pyrrocoma integrifolia* (Porter ex A. Gray) Greene (2) L, P; 2840–2900m; dm; USFS R2 Sensitive.
- Pyrrocoma uniflora* (Hook.) Greene var. *uniflora* (24) B, F, L, M, P, S, W; 1725–3500m; bd, bs, dm, ds, ma, sa.
- Rudbeckia occidentalis* Nutt. (2) F, M; 2410–2560m; dm.
- ◆ *Saussurea weberi* Hult. (18) D, G, T; 2660–3535m; at, dm, lm; USFS R4 Sensitive.
- Senecio crassulus* A. Gray (46) B, D, F, G, M, P, T, W; 2375–3600m; af, at, dm, fw, gr, lf, lm, sf, wm, wt.
- Senecio eremophilus* Richardson var. *eremophilus* (2) F; 2375–2895m; bs, lf.
- Senecio fremontii* Torr. & A. Gray var. *fremontii* (30) B, D, F, G, P; 2725–3960m; at, dm, gr, lm, wm.
- Senecio hydrophilus* Nutt. (7) F, G, S; 2195–2895m; sa, wm.
- Senecio integerrimus* Nutt. var. *exaltatus* (Nutt.) Cronquist (168) B, D, F, G, L, M, P, S, T, W; 1790–3830m; af, at, bs, df, dm, ds, fw, gr, jw, lf, lm, ma, sa, ssf, wf, wm.
- Senecio lugens* Richards. (45) B, D, F, G, L, P, T, W; 2065–3840m; at, bs, dm, fw, gr, lw, sf, wm, wt.
- Senecio rapifolius* Nutt. (1) P; 2680m; gr.

- Senecio serra* Hook. var. *admirabilis* (Greene) A. Nelson (7) D, T, W; 2600–3520m; af, dm, fw, ma, wm.
- Senecio serra* Hook. var. *serra* (21) B, F, G, M, W; 2255–3005m; af, bs, dm, ds, fw, gr, lf, ma, wm.
- Senecio sphaerocephalus* Greene (38) B, D, F, G, L, M, P, W; 2315–3110m; bs, dm, ds, fw, ma, sa, wm, wt.
- Senecio triangularis* Hook. (59) B, D, F, G, L, M, P, T, W; 2375–3795m; af, at, bs, dm, fw, lf, ma, sa, sf, wm, wt.
- Solidago lepida* DC. var. *salebrosa* (Piper) Semple (19) B, F, L, M, P, S, T; 2255–2730m; af, bs, ds, lf, ma, sa, wm, wt; (*S. canadensis* var. *salebrosa*).
- Solidago missouriensis* Nutt. (8) L, M, S; 2285–2430m; bs, lf.
- Solidago multiradiata* Aiton (162) B, D, F, G, L, M, P, S, T, W; 1725–3840m; at, bd, bs, df, dm, ds, fw, gr, lf, lm, ma, sa, sf, wf, wm.
- Solidago nana* Nutt. (5) B, D, F, L; 2335–2985m; dm, ds.
- # *Solidago ptarmicoides* (Nees) B. Boivin (1) W; 2745–2795m; dm; (*Oligoneuron album*, *Unamia alba*).
- Solidago simplex* Kunth (3) G, M; 2285–3535m; at, bs, dm, wm, wt.
- Solidago velutina* DC. ssp. *sparsiflora* (A. Gray) Semple (13) B, F, G, L, S; 2315–2800m; af, bs, dm, lm, sa.
- * *Sonchus arvensis* L. ssp. *uliginosus* (M. Bieb.) Nyman (6) F, L, M; 2345–2410m; ds, sa.
- Stenotus acaulis* (Nutt.) Nutt. (50) B, F, G, L, M, P, S, T, W; 1850–3415m; at, bs, dm, ds, gr, lm, lw; (*Haplopappus acaulis*).
- Stenotus armerioides* Nutt. var. *armerioides* (6) L; 1725–2230m; bs, jw, lm, lw; (*Haplopappus armerioides*).
- ◆ *Stephanomeria fluminea* Gottlieb (3) M; 2345–2375m; sa.
- Stephanomeria runcinata* Nutt. (2) L, T; 2335–2520m; bs.
- Symphotrichum ascendens* (Lindl.) G.L. Nesom (34) B, D, F, G, L, M, P, S, T, W; 1960–3230m; af, bs, df, dm, ds, lf, sa, sf, wm, wt; (*Aster ascendens*).
- Symphotrichum boreale* (Torr. & A. Gray) Á. Löve (2) D, F; 2375–2885m; ma, sa; (*Aster junciformis*, *A. borealis*).
- Symphotrichum campestre* (Nutt.) G.L. Nesom (9) B, F, G, M, P, S; 2315–2865m; bs, dm, ds, fw, wm; (*Aster campestris*).
- Symphotrichum eatonii* (A. Gray) G.L. Nesom (12) F, G, L, M, P, T, W; 2375–2690m; ds, fw, ma, rs, wm; (*Aster bracteolatus*, *A. eatonii*).
- Symphotrichum foliaceum* (DC.) G.L. Nesom var. *apricum* (A. Gray) G.L. Nesom (42) B, D, F, G, P, T, W; 2500–3790m; at, bs, df, dm, gr, ma, sf, wm; (*Aster foliaceus* var. *apricus*).
- Symphotrichum foliaceum* (DC.) G.L. Nesom var. *parryi* (D.C. Eaton) G.L. Nesom (29) B, D, F, G, M, W; 2285–3170m; af, dm, fw, lm, sa, sf, wm, wt; (*Aster foliaceus* var. *parryi*).
- Symphotrichum frondosum* (Nutt.) Nesom (1) F; 2305m; wm; (*Aster frondosus*).
- Symphotrichum lanceolatum* (Willd.) G.L. Nesom var. *hesperium* (A. Gray) G.L. Nesom (12) D, F, L, P, S, T, W; 2285–3120m; bs, fw, wm, wt; (*Aster lanceolatus* var. *hesperius*).
- Symphotrichum spathulatum* (Lindl.) G.L. Nesom var. *spathulatum* (55) B, D, F, G, M, P, S, W; 2195–3160m; bd, bs, dm, fw, ma, sa, wm, wt; (*Aster occidentalis*, *A. spathulatus*).
- * *Tanacetum parthenium* (L.) Sch. Bip (1) F; 2380–2410m; sa; (*Chrysanthemum parthenium*).
- *● *Tanacetum vulgare* L. (1) F; 2380m; ds.
- Taraxacum ceratophorum* (Ledeb.) DC. (15) B, D, F, G, P, T; 2440–3960m; at, bs, dm, fw, gr, wm; (includes *T. eriophorum*).
- * *Taraxacum erythrospermum* Andr. ex Besser (59) B, F, G, L, M, P, S, T, W; 2260–3170m; af, bs, df, dm, ds, fw, lf, lm, sa, sf, wm, wt; (*T. laevigatum*).
- * *Taraxacum officinale* Weber ex F.H. Wigg. (59) B, D, F, G, L, M, P, S, T, W; 2065–3350m; af, bs, df, dm, ds, gr, jw, lf, lm, sa, sf, wm, wt.
- Taraxacum scopulorum* (A. Gray) Rydb. (14) B, D, F, G, P, W; 2865–4025m; at, dm, gr.
- Tetradymia canescens* DC. (12) B, F, L, M, S, T; 1770–2375m; bs.
- Tetraneuris acaulis* (Pursh) Greene var. *acaulis* (25) L, P, T; 2260–3525m; bs, df, dm, lm, lw; (*Hymenoxys acaulis* var. *acaulis*).
- Tetraneuris acaulis* (Pursh) Greene var. *caespitosa* A. Nelson (4) T; 2260–3525m; bs, df; (*Hymenoxys acaulis* var. *caespitosa*).
- # *Tetraneuris acaulis* (Pursh) Greene var. *epunctata* (A. Nelson) Kartesz & Gandhi (2) L; 2710–3020m; bs, dm.
- Tetraneuris torreyana* (Nutt.) Greene (10) L, S; 2350–2615m; bs, dm, gr, lm; (*Hymenoxys torreyana*).
- Tonestus lyallii* (A. Gray) A. Nelson (44) B, D, F, G, P, T, W; 2800–3830m; at, dm, gr, sf, wm; (*Haplopappus lyallii*).
- Townsendia condensata* Parry ex A. Gray var. *condensata* (1) T; 2775–3050m; ds, lm.
- Townsendia hookeri* Beaman (3) L, T; 1765–2255m; ds, jw.
- Townsendia leptotes* (A. Gray) Osterh. (2) G, T; 2665–3525m; dm, lm.
- Townsendia montana* M.E. Jones (9) D, G, M; 2375–3415m; at, bd, dm, lm; (*T. alpigena*).
- Townsendia nuttallii* Dorn (1) L, M, S; 2375m; dm, lw.
- Townsendia parryi* D.C. Eaton (37) F, G, L, M, T; 2260–3525m; bd, bs, dm, lm, sa.
- Townsendia spathulata* Nutt. (14) L, P, S, T; 1765–3525m; bs, dm, gr, lm.
- * *Tragopogon dubius* Scop. (30) B, D, F, G, L, M, P, T; 1725–2925m; af, bs, dm, ds, jw, lf, sa, sf, wm.
- * *Tragopogon pratensis* L. (4) B, L, M, W; 1860–2440m; bs, dm, ds; (*T. lammottei*).
- * *Tripleurospermum maritimum* (L.) W.D.J. Koch ssp. *maritimum* (1) F; 2410–2745m; ds; (*Matricaria maritima*).
- # *Wyethia amplexicaulis* (Nutt.) Nutt. (1) W; 2745m; dm.
- Xanthisma grindelioides* (Nutt.) D.R. Morgan & R.L. Hartm. var. *grindelioides* (9) L, T, W; 1725–2520m; bs, dm, jw; (*Haplopappus nuttallii*, *Machaeranthera grindelioides*).

Berberidaceae

Berberis repens Lindl (52) B, F, G, L, M, P, S, T; 2160–2860m; af, bs, df, dm, ds, gr, lf; (*Mahonia repens*).

Betulaceae

Alnus incana (L.) Moench var. *occidentalis* (Dippel) C.L. Hitchc. (8) L, P; 2175–2940m; af, fw, ma, sa, wm.

Betula glandulosa Michx. (46) B, D, F, G, L, M, P, S, T, W; 2315–3790m; fw, gr, ma, rs, sa, wm, wt.

Betula occidentalis Hook. (17) B, F, G, L, S, T; 1860–3050m; af, df, lm, rs, sa, wm, wt.

Boraginaceae (Hydrophyllaceae)

* *Asperugo procumbens* L. (5) L; 1725–2450m; dm, wm.

Cryptantha affinis (A. Gray) Greene (4) B, S; 2225–2560m; bs, gr.

Cryptantha ambigua (A. Gray) Greene (6) B, F, S; 2255–2590m; bs, ds, gr, sa.

Cryptantha celosioides (Eastw.) Payson (10) L, T, W; 1725–1975m; bs, jw.

Cryptantha fendleri (A. Gray) Greene (3) F, S; 2345–2410m; bs.

Cryptantha flavoculata (A. Nelson) Payson (21) B, F, L, P, S; 2285–2745m; bs, dm.

Cryptantha kelseyana Greene (1) B; 2225m; ds.

Cryptantha torreyana (A. Gray) Greene (18) B, F, S; 2255–2745m; af, bs, dm, gr.

Cryptantha watsonii (A. Gray) Greene (7) L, P, T; 1960–2885m; bs, gr, jw, lm.

*● *Cynoglossum officinale* L. (1) L; 1725–1915m; bs.

Ellisia nyctelea (L.) L. (1) L; 2195–2375m; bs.

Eritrichum nanum (Vill.) Schrad. ex Gaudin var. *elongatum* (Rydb.) Cronquist (18) B, D, G, L, P, T; 2475–4025m; at, dm, gr, lm.

Hackelia floribunda (Lehm.) I.M. Johnst. (14) F, G, M, T, W; 2345–3155m; bs, dm, sa.

- Hackelia micrantha* (Eastw.) J. Gentry (7) F, G, M; 2440–3050m; bs, dm, ds, lf.
- Hackelia patens* (Nutt.) I.M. Johnst. var. *patens* (11) B, F; 2375–2895m; bs, dm.
- ◆ *Hesperochiron californicus* (Benth.) Wats. (1) F; 2285m; dm.
- Hesperochiron pumilus* (Griseb.) Porter (1) F; 2375–2410m; bs.
- Hydrophyllum capitatum* Douglas ex Benth. var. *capitatum* (11) F, L, M, W; 2065–2965m; af, bd, bs, dm.
- Lappula cenchrusoides* A. Nelson (2) T; 2255m; bs, ds; (*L. squarrosa* var. *erecta*).
- # *Lappula occidentalis* (S. Watson) Greene var. *cupulata* (A. Gray) L.C. Higgins (1) F; 2285m; bs.
- Lappula occidentalis* (S. Watson) Greene var. *occidentalis* (25) B, F, G, L, S, T; 1725–2745m; bs, df, dm, ds, gr, lf, lm, rs; (*L. redowskii*).
- * *Lappula squarrosa* (Retz.) Dumort var. *squarrosa* (17) B, F, M, S, T; 2255–2925m; af, bs, dm, ds, sf.
- Lithospermum incisum* Lehm. (6) F, L, T; 1765–2570m; bs, jw.
- Lithospermum ruderale* Douglas ex Lehm. (43) B, F, L, M, T, W; 1790–2905m; af, bs, df, dm, ds, jw, lf, lw.
- Mertensia alpina* (Torr.) G. Don (51) B, D, F, G, P, T, W; 2990–4085m; at, dm, gr, wm.
- Mertensia ciliata* (E. James ex Torr.) G. Don var. *ciliata* (124) B, D, F, G, L, M, P, T, W; 2345–3965m; af, at, bs, dm, fw, gr, lf, ma, sa, sf, wm, wt.
- Mertensia fusiformis* Greene (10) B, F, T; 2315–3535m; af, bs, dm, rs.
- Mertensia oblongifolia* (Nutt.) G. Don (5) L, P, T; 2065–3170m; bs, dm.
- Mertensia viridis* (A. Nelson) A. Nelson (63) B, F, G, L, M, P, S, T; 2150–3525m; af, at, bs, dm, ds, fw, lf, sf, wf, wm.
- Myosotis alpestris* F.W. Schmidt (52) D, F, G, M, T, W; 2475–3525m; af, at, bs, dm, fw, gr, lf, lm, sf, wf, wm.
- * *Myosotis arvensis* (L.) Hill (1) D; 3230m; wf.
- * *Myosotis scorpioides* L. (1) W; 2680–2715m; fw.
- Nemophila breviflora* A. Gray (18) B, F, L, M, S, W; 2375–2865m; af, bs, df, dm.
- Pectocarya penicillata* (Hook. & Arn.) A. DC. (1) S; 2315–2345m; bs.
- Phacelia franklinii* (R. Br.) A. Gray (26) D, F, G, M, W; 2380–2795m; bs, df, dm, lf, rs, wm, wt.
- Phacelia hastata* Douglas ex Lehm. var. *hastata* (36) B, D, F, G, L, M, P, S, T, W; 1790–3600m; bd, bs, df, dm, gr, jw, lm, wf, wm, wt.
- Phacelia sericea* (Graham ex Hook.) A. Gray var. *ciliosa* Rydb. (22) D, F, L, M, P, T, W; 1850–3500m; af, bs, dm, ds, gr, lf, sf, wf, wm.
- Phacelia sericea* (Graham ex Hook.) A. Gray var. *sericea* (90) B, D, F, G, L, M, P, S, T, W; 1860–3780m; af, at, bs, df, dm, ds, fw, gr, lf, lm, lw, ma, sa, sf, wf.
- # *Plagiobothrys leptocladus* (Greene) I.M. Johnst. (1) F; 2375m; sa.
- Plagiobothrys scouleri* (Hook. & Arn.) I.M. Johnst. var. *hispidulus* (Greene) Dorn (36) B, D, F, L, M, P, S, W; 2375–3140'; af, aq, bs, df, dm, ds, fw, rs, sa, wm.
- Brassicaceae**
- * *Alyssum alyssoides* (L.) L. (8) L; 1725–2560m; bs, ds, jw, rs.
- * *Alyssum desertorum* Stapf (23) B, F, L, M, S, T; 2065–2865m; af, bs, dm, ds, lf.
- * *Alyssum simplex* Rudolphi (1) L; 2145m; dm; (*A. parviflorum* var. *micranthum*).
- Arabis eschscholtziana* Andr. in Ledeb. (4) B, T, W; 2255–2860m; bs, fw, lm, sf; (*Arabis hirsuta* var. *glabrata*).
- Arabis nuttallii* B.L. Rob. (10) B, F, G, M, T; 2345–2745m; af, bs, dm, fw, lm, wm, wt; (*Boechera nuttallii*).
- Arabis pycnocarpa* M. Hopkins (10) F, G, L, P, T; 1860–2745m; af, bs, df, dm, fw, lm, sf; (*A. hirsuta* var. *pycnocarpa*).
- Barbarea orthoceras* Ledeb. (25) B, D, F, L, M, P, T; 2065–2955m; af, bs, dm, fw, gr, sa, sf, wm, wt.
- * *Berteroa incana* (L.) DC. (7) B, F; 2165–2560m; ds.
- Boechera collinsii* (Fernald) Åskell Löve & D. Löve (7) D, F, L, S; 2375–3085m; dm, gr, lm; (*B. holboellii* var. *collinsii*, *Arabis holboellii* var. *collinsii*).
- Boechera grahamii* (Lehm.) Windham & Al-Shehbaz (34) B, D, F, G, L, M, P, S, W; 1790–3655m; at, bd, bs, dm, fw, gr, jw, lf, lm, sf; (*Boechera brachycarpa*; *Arabis confinis*; two collections appear to be hybrids with *B. holboellii* var. *secunda* according to R.C. Rollins).
- Boechera languida* (Rollins) Windham & Al-Shehbaz (1) S; 2315–2440m; bs; (*B. demissa* var. *languida*, *Arabis demissa*).
- Boechera lemmonii* (Wats.) Weber var. *lemmonii* (22) B, D, F, G, M, P, W; 3050–3830m; at, dm, gr; (*Arabis lemmonii*).
- Boechera lyallii* (Wats.) Dorn (36) B, D, F, M, P, W; 2500–3965m; at, dm, gr, lf, sa, sf, wf, wm; (*Arabis lyallii*).
- Boechera macounii* (Wats.) Windham & Al-Shehbaz (4) L, P, T; 2260–2655m; bs, wt; (*B. microphylla* var. *macounii*, *Arabis microphylla* var. *macounii*).
- Boechera microphylla* (Nutt.) Dorn (24) B, D, F, G, S, W; 2345–3625m; af, dm, gr, lm, lw; (*Arabis microphylla* var. *microphylla*).
- Boechera pauciflora* (Nutt.) Windham & Al-Shehbaz (3) B, G, T; 2225–2800m; bs, lf, lm; (*B. sparsiflora*, *Arabis sparsiflora* var. *subvillosa*).
- ◆ *Boechera pendulina* (Greene) W.A. Weber (14) S; 2315–2500m; bs, dm, gr; (*Arabis pendulina* var. *russeola*).
- Boechera pendulocarpa* (A. Nelson) Windham & Al-Shehbaz (87) B, D, F, G, L, M, P, S, T, W; 1725–3230m; af, bs, df, dm, gr, jw, lf, lm, lw, sf, wm; (*B. exilis*, *Arabis pendulocarpa*).
- Boechera pinetorum* (Tidestr.) Windham & Al-Shehbaz (30) B, D, F, G, L, M, P, T, W; 1790–3190m; af, bs, df, dm, fw, gr, jw, lf, lm, sa, sf; (*B. holboellii* var. *pinetorum*, *Arabis holboellii* var. *pinetorum*).
- ◆ *Boechera pusilla* (Rollins) Dorn (8) S; 2440m; gr; (*Arabis pusilla*); USFWS Candidate, WY BLM Sensitive.
- Boechera retrofracta* (Graham) Á. Löve & D. Löve (83) B, D, F, G, L, M, P, S, T, W; 1725–3500m; af, bd, bs, dm, ds, fw, gr, lf, lm, sa, sf, wf, wm; (*B. holboellii* var. *secunda*, *Arabis holboellii* var. *secunda*).
- Boechera saximontana* (Rollins) Windham & Al-Shehbaz (10) D, L, P, S, T, W; 1850–3500m; bs, dm, wf; (*B. williamsii* var. *saximontana*, *Arabis williamsii* var. *saximontana*).
- Boechera spatifolia* (Rydb.) Windham & Al-Shehbaz (1) L; 1800–1860m; lm; (*B. fendleri* var. *spatifolia*, *Arabis fendleri*).
- Boechera stricta* (Graham) Al-Shehbaz (147) B, D, F, G, L, M, P, S, T, W; 2255–3500m; af, at, bs, df, dm, ds, fw, gr, lf, lm, sa, sf, wf, wm, wt; (*B. angustifolia*, *Arabis drummondii*).
- ◆ *Boechera williamsii* (Rollins) Dorn (19) B, D, L, P; 2510–3815m; at, bs, dm, gr; (*Arabis williamsii* var. *williamsii*).
- ◆ *Braya humilis* (Ledeb.) Robins. (2) D, T; 3310–3730m; lm.
- * *Camelina microcarpa* Andr. ex DC (18) B, F, L, T; 1765–2620m; af, bs, ds, jw, sa.
- * *Capsella bursa-pastoris* (L.) Medik (26) B, F, L, M, T, W; 1725–2865m; af, bs, dm, ds, lf, sa, wm.
- # *Cardamine breweri* S. Watson (2) F; 2050–2440m; wm.
- Cardamine oligosperma* Nutt. var. *oligosperma* (8) B, F, W; 2620–3050m; fw, wm, wt.
- Cardamine pensylvanica* Muhl. ex Willd. (22) B, D, F, G, L, M, P, S; 2210–3210m; fw, ma, wm, wt.
- * *Cardaria chalepensis* (L.) Hand.-Mazz (2) T, W; 2225–2715m; bs, dm, ds.
- * *Cardaria pubescens* (Meyer) Jarmol (1) T; 2255m; af.
- * *Chorispora tenella* (Pall.) DC. (8) B, F, L; 2500–2745m; af, dm, ds, lf.
- Descurainia californica* (A. Gray) Schulz (4) F; 2410–2990m; af, bs.
- Descurainia incana* (Bernh. ex Fisch. & C.A. Mey.) Dorn (66) B, D, F, G, L, M, P, S, T, W; 1725–3270m; af, bs, df, dm, ds, gr, jw, lf, lm, lw, ma, sa, sf, wf, wm, wt; (includes vars. *macrosperma* & *major*).
- Descurainia incisa* (Engelm.) Britton var. *incisa* (4) F, G; 2470–3535m; at, dm, lm; (*D. incana* var. *viscosa*).
- Descurainia longepedicellata* (E. Fourn.) O.E. Schulz. (5) L, T; 1790–2560m; bs, ds, fw, jw; (*D. pinnata* var. *filipes*).

- Descurainia nelsonii* (Rydb.) Al-Shehbaz & Goodson (19) B, F, L, P, S, W; 2175–2990m; af, bs, df, dm, ds, gr, lf, sf, wm; (*D. pinnata* var. *nelsonii*).
- Descurainia pinnata* (Walter) Britton ssp. *brachycarpa* (Richardson) Detling (2) L; 2065–2175m; dm; (includes var. *osmiarum*).
- * *Descurainia sophia* (L.) Webb ex Prantl (19) B, F, L, M, S, T, W; 2210–2745m; af, bs, dm, ds, lf.
- Draba albertina* Greene (138) B, D, F, G, L, M, P, S, T, W; 2210–3600m; af, at, bd, bs, dm, fw, gr, lf, lw, ma, rs, sa, sf, wf, wm, wt.
- Draba aurea* Vahl ex Hornem. (62) B, D, F, G, M, P, T, W; 2440–3840m; af, at, dm, fw, gr, lf, lm, lw, ma, sf, wf, wm, wt.
- ◆ *Draba borealis* DC. (2) G; 2620m; fw, lm; BTNF Sensitive.
- Draba calcifuga* Lesica (1) F; 3415–3475m; gr; (included in *D. oligosperma* by some authors).
- Draba cana* Rydb. (27) D, F, G, L, P, T; 2375–3755m; at, bs, dm, fw, gr, lm.
- ◆ *Draba crassa* Rydb. (17) B, D, F, G, L, M, P, S, T, W; 3025–4055m; at, dm, gr.
- Draba crassifolia* Graham (49) B, D, F, G, P, W; 2865–3965m; at, dm, gr, lm, sf, wf.
- Draba densifolia* Nutt. (9) P, S, W; 2315–3170m; bs, dm, gr.
- ◆ *Draba fladnizensis* Wulf (8) D, P; 3170–4025m; at, dm, gr.
- ◆ *Draba globosa* Payson (11) D, F, G, P, T; 2665–3790m; at, dm, gr, lm; (*D. apiculata*); USFS R4 Sensitive.
- Draba incerta* Payson (28) B, D, F, G, P, W; 2800–3750m; at, dm, gr, lm.
- Draba lonchocarpa* Rydb. var. *lonchocarpa* (28) B, D, F, G, T; 2990–3840m; at, gr, lm.
- * *Draba nemorosa* L. (23) B, F, G, L, M, P, S; 1850–2745m; af, bs, dm, ds, gr, wm.
- ◆ *Draba novolympica* Payson & St. John (2) T; 2665–3525m; at, dm; (*D. paysonii* var. *treleasii*).
- Draba oligosperma* Hook. (61) B, D, F, G, L, M, P, S, T, W; 2065–3670m; at, bd, bs, dm, jw, lm, lw.
- ◆ *Draba paysonii* Macbr. var. *paysonii* (8) D, F, G, W; 2865–3790m; at, dm, gr, lm.
- ◆ *Draba porsildii* Mulligan (9) B, F, G, T; 3230–3750m; at, gr.
- Draba praealta* Greene (17) B, D, F, G, M; 2345–3270m; af, bs, fw, gr, lf, lm, sf, wf, wm, wt.
- Draba ventosa* A. Gray (9) D, G, M, P, W; 2865–4110m; at, dm, fw, gr.
- Erysimum capitatum* (Douglas ex Hook.) Greene var. *capitatum* (31) D, F, L, M, S, T, W; 1790–3155m; bs, dm, jw, lf, lm, wm; (*E. asperum* var. *arkansanum*).
- Erysimum cheiranthoides* L. ssp. *altum* Ahti (5) F, G, M; 2375–3050m; bs, lm, rs, wm.
- Erysimum inconspicuum* (Wats.) MacM. (15) F, G, M, W; 2285–2745m; bs, dm, lm, rs, sa, wm, wt.
- Halimolobos virgata* (Nutt.) O.E. Schulz (4) T; 2225–2650m; dm, ds.
- Hutchinsia procumbens* (L.) Desv. (1) S; 2440–2470m; wm; (*Hornungia procumbens*).
- * *Lepidium campestre* (L.) R. Br. (1) L; 1785m; ds.
- Lepidium densiflorum* Schrad. var. *densiflorum* (14) B, F, S; 2345–2865m; af, dm, ds, sa, wm.
- Lepidium densiflorum* Schrad. var. *macrocarpum* G.A. Mulligan (4) B, F; 2225–2925m; bs, ds, lf, sf, wm.
- *● *Lepidium latifolium* L. (1) T; 2285m; ds.
- * *Lepidium perfoliatum* L. (5) B, F, L, M; 1725–2925m; bs, ds, lf.
- Lepidium ramosissimum* A. Nelson var. *bourgeauanum* (Thell.) Rollins (3) S, T; 2225–2345m; bs.
- Lepidium ramosissimum* A. Nelson var. *ramosissimum* (18) B, F, M, T, W; 2315–2865m; bs, ds.
- * *Lepidium virginicum* L. (2) B, W; 2650–2925m; ds.
- Nasturtium officinale* R. Br. (2) F, L; 1860–2375m; wm.
- Noccaea parviflora* (A. Nels.) Holub (36) B, D, F, G, M, P, S, T, W; 2410–3500m; af, bs, dm, gr, lf, rs, wf, wm; (*Thlaspi parviflorum*).
- ◆ *Parrya nudicaulis* (L.) Boiss. (16) D, G, P, T; 3155–3665m; at, gr, lm; USFS R4 Sensitive.
- Physaria acutifolia* Rydb. var. *acutifolia* (4) M, T; 2315–3110m; bd, dm, lw.
- Physaria arenosa* (Richardson) O’Kane & Al-Shehbaz var. *arenosa* (2) L; 1765–2390m; bs, dm; (*Lesquerella arenosa*).
- Physaria didymocarpa* (Hook.) A. Gray var. *didymocarpa* (3) T; 2620–2990m; dm.
- ◆ *Physaria fremontii* (Rollins & Shaw) O’Kane & Al-Shehbaz (33) L, S, T; 2330–3385m; bs, dm, lm; (*Lesquerella fremontii*); USFS R2 & WY BLM Sensitive.
- Physaria integrifolia* (Rollins) Lichvar var. *integrifolia* (5) M; 2345–2530m; bd, dm, lf.
- Physaria nelsonii* O’Kane & Al-Shehbaz (3) T; 3110–3535m; dm; (*Lesquerella condensata*).
- ◆ *Physaria paysonii* (Rollins) O’Kane & Al-Shehbaz (9) F; 2285–2500m; bs; (*Lesquerella paysonii*, *P. carinata* var. *paysonii*); USFS R4 Sensitive.
- Physaria reediana* O’Kane & Al-Shehbaz var. *reediana* (9) L, T; 1960–3360m; bs, dm, jw, lw; (*Lesquerella alpina*).
- ◆ *Physaria saximontana* Rollins var. *saximontana* (13) L, T; 1790–2520m; dm, jw; WY BLM Sensitive.
- Physaria spatulata* (Rydb.) Grady & O’Kane (2) L; 1800–2000m; bs, jw (*Lesquerella alpina* var. *spatulata*).
- Rorippa alpina* (S. Watson) Rydb. (7) B, F, G; 2375–3840m; sa, wm, wt; (*R. curvipes* var. *alpina*).
- * *Rorippa austriaca* (Crantz) Bess. (2) F; 2255–2260m; ds.
- ◆ *Rorippa calycina* (Engelm.) Rydb. (1) L; 1970m; wm; WY BLM Sensitive.
- Rorippa curvipes* Greene var. *curvipes* (23) B, D, F, M, P, S; 2225–3240m; ds, ma, sa, wm, wt.
- Rorippa curvipes* Greene var. *integra* (Rydb.) Stuckey (13) D, F, M, W; 2375–3420m; fw, rs, wm, wt.
- Rorippa curvisiliqua* (Hook.) Bessey ex Britt. var. *curvisiliqua* (1) L; 2605–2860m; ma.
- Rorippa palustris* (L.) Besser var. *elongata* Stuckey (1) B; 2500–2530m; wm.
- Rorippa palustris* (L.) Besser var. *fernaldiana* (Butters & Abbe) Stuckey (7) B, F, P; 2255–3110m; aq, dm, fw, sa, sf, wm.
- # *Rorippa palustris* (L.) Besser var. *hispida* (Desv.) Rydb. (1) F; 2285m; ds.
- * *Sisymbrium altissimum* L. (5) F, L; 1790–2345m; bs, ds, jw.
- Sisymbrium linifolium* Nutt. (6) B, F, M, S; 2285–2560m; bs, lf; (*Schoenocrambe linifolia*).
- * *Sisymbrium loeselii* L. (2) F, S; 2195m; ds.
- Smelowskia calycina* (Steph. ex Willd.) C.A. Mey. var. *americana* (Regel & Herd.) Drury & Roll. (55) B, D, F, G, P, T, W; 2635–3965m; at, dm, gr, lm, wm, wt.
- Subularia aquatica* L. (6) B, D, F, M, P; 2440–3120m; aq.
- Thelypodium paniculatum* A. Nelson (5) F, G, S, W; 2700–2790m; wm, wt.
- * *Thlaspi arvense* L. (30) B, F, L, M, T, W; 2315–2745m; bs, ds, wm, wt.
- Turritis glabra* L. (33) B, D, F, G, L, M, P, S, W; 1850–3160m; af, bs, ds, fw, gr, lf, lm, sa, wm, wt; (*Arabis glabra*).

Cactaceae

- Opuntia polyacantha* Haw. var. *polyacantha* (8) B, F, L, S, T; 1725–2745m; bs, gr.
- Pediocactus simpsonii* (Engelm.) Britton & Rose (1) S; 2315–2440m; bs.

Campanulaceae

- Campanula rotundifolia* L. (91) B, D, F, G, L, M, P, S, T, W; 2175–3840m; af, at, bs, df, dm, fw, gr, lf, lm, sa, sf, wm.
- Campanula uniflora* L. (15) D, F, P, T; 2980–4110m; at, dm, gr.

Caprifoliaceae (Linnaeaceae, Valerianaceae)

- Linnaea borealis* L. var. *longiflora* Torr. (9) B, F, G; 2255–2680m; df, fw, lf, sf.
Lonicera involucrata (Richardson) Banks ex Spreng. var. *involucrata* (52) B, D, F, L, M, P, S, T, W; 2175–3320m; af, fw, gr, rs, sa, sf, wm, wt.
 * *Lonicera tatarica* L. (1) F; 2190m; af.
Lonicera utahensis Wats. (1) W; 2680–2690m; fw.
Symphoricarpos occidentalis Hook. (1) L; 2195m; df.
Symphoricarpos oreophilus A. Gray var. *utahensis* (Rydb.) A. Nelson (35) B, F, G, L, M, P, T, W; 2210–3050m; af, bs, df, dm, gr, lf, lm, lw, rs, wm, wt.
Valeriana acutiloba Rydb. var. *pubicarpa* (Rydb.) Cronq. (4) F, G; 2990–3600m; at, gr, lm.
Valeriana edulis Nutt. ex Torr. & A. Gray var. *edulis* (51) D, F, G, L, M, P, S, T, W; 2290–3525m; af, at, bs, dm, fw, lm, ma, wm, wt.
Valeriana occidentalis A. Heller (32) D, F, G, M, T, W; 2315–3170m; af, bs, dm, fw, lm, sf, wm, wt.

Caryophyllaceae

- Cerastium arvense* L. (52) B, D, F, G, L, M, P, T, W; 1725–3720m; at, bs, df, dm, ds, fw, gr, jw, lm, sa, wm, wt.
Cerastium beeringianum Cham. & Schlecht. var. *capillare* Fern. & Wieg. (70) B, D, F, G, M, P, T, W; 2375–4110m; at, bs, dm, fw, gr, lm, sa, wm, wt.
Cerastium brachypodum (Engelm. ex A. Gray) Robins. (3) B, L; 1960–2560m; dm, wm.
 * *Cerastium fontanum* Baumg. ssp. *vulgare* (Hartm.) Greuter & Burdet (11) B, F, M, P, W; 2255–3190m; af, df, dm, lf, wm.
Cerastium nutans Raf. var. *nutans* (1) W; 2785–2950m; wt.
Eremogone congesta (Nutt.) Ikonn. var. *congesta* (156) B, D, F, G, L, M, P, S, T, W; 1850–3790m; af, at, bs, dm, ds, fw, gr, lf, lm, sf, wf, wm; (*Arenaria congesta* var. *congesta*).
Eremogone congesta (Nutt.) Ikonn. var. *lithophila* (Rydb.) Dorn (2) P, T; 2555–2905m; dm.
Eremogone hookeri (Nutt.) W.A. Weber var. *hookeri* (17) B, L, S, T, W; 1725–2485m; bs, dm, ds, jw; (*Arenaria hookeri* var. *hookeri*).
Eremogone hookeri (Nutt.) W.A. Weber var. *pinetorum* (A. Nelson) Dorn (2) L; 1860m; jw; (*Arenaria hookeri* var. *pinetorum*).
 * *Gypsophila paniculata* L. (1) F; 2225m; ds.
Minuartia austromontana S.J. Wolf & Packer (10) G, T; 3230–3535m; at, dm, lm.
Minuartia nuttallii (Pax) Briq. var. *nuttallii* (23) B, G, L, T; 1790–3525m; at, bs, dm, jw, lm.
Minuartia obtusiloba (Rydb.) House (108) B, D, F, G, L, P, T, W; 2345–4110m; at, dm, gr, lf, lm, sa, wm.
Minuartia rubella (Wahlenb.) Hiern (33) B, D, F, G, L, T; 2255–3830m; at, dm, ds, gr, jw, lm, sa.
Moehringia lateriflora (L.) Fenzl (13) B, F, G, L, M, P, S; 2210–2865m; af, dm, lf, wm, wt.
Paronychia sessiliflora Nutt. (2) L, S; 2065–2410m; bs, dm.
Sagina saginoides (L.) H. Karst (55) B, D, F, G, L, M, P, S; 2210–4025m; at, df, dm, fw, gr, lf, lm, sa, wm, wt.
Silene acaulis (L.) Jacq. (62) B, D, F, G, P, T, W; 2665–4025m; at, dm, gr, lm.
Silene drummondii Hook. var. *drummondii* (15) B, D, F, M, S, T, W; 2375–3600m; at, bs, dm, ds, fw, gr, lf, sa, sf, wm.
Silene drummondii Hook. var. *striata* (Rydb.) Bocquet (44) B, D, F, G, L, M, P, W; 2440–3600m; at, bs, dm, gr, lf, sf, wf, wm.
Silene hitchguirei Bocq. (3) D, F, P; 2975–3795m; dm, gr, lm.
Silene kingii (Wats.) Bocq. (11) D, P, T; 3240–3420m; dm.
 * *Silene latifolia* Poir. (5) B, F, L, M; 1860–2620m; ds, sa, wm.
Silene menziesii Hook. (17) B, F, G, L, M; 1725–3050m; af, bs, df, ds, fw, gr, rs, sa, sf, wm.
Silene parryi (S. Watson) C.L. Hitchc. & Maguire (16) B, D, F, G, M, P, T, W; 2470–3600m; at, dm, lm.

* *Spergularia rubra* (L.) J. Presl & C. Presl (19) B, F, L, M, S, W; 2210–3170m; af, bs, dm, ds, lf, wm.

- Stellaria borealis* Bigelow var. *borealis* (18) B, F, G, M, T; 2255–3155m; af, df, fw, lf, lm, sf, wm; (hybridizes with *S. longifolia*, WF 11359).
Stellaria calycantha (Ledeb.) Bong. (5) B, F, L, W; 2605–3230m; lm, wm.
Stellaria crassifolia Ehrh. (4) F, S, W; 2375–3230m; wm.
Stellaria longifolia Muhl. ex Willd. (3) D, L, T; 2605–2995m; lf, ma.
Stellaria longipes Goldie var. *longipes* (120) B, D, F, G, L, M, P, S, T, W; 2210–3790m; af, at, bs, dm, ds, fw, gr, lf, lm, ma, sa, wm, wt; (includes *S. monantha*).
Stellaria obtusa Engelm. (2) F, M; 2440–2560m; dm, lf.
Stellaria umbellata Turcz. (61) B, D, F, G, M, P, W; 2410–3655m; af, at, bs, dm, fw, gr, lf, lm, ma, sf, wf, wm, wt.

Celastraceae

- Paxistima myrsinites* (Pursh) Raf. (17) B, F, G, L, P; 2175–2990m; af, bs, df, lf, sf, wf.

Ceratophyllaceae

- Ceratophyllum demersum* L. (1) B; 2440m; aq.

Clusiaceae (Hypericaceae)

- Hypericum scouleri* Hook. (3) F, P; 2375–3055m; ma, wt; (*H. formosum* var. *scouleri*).

Colchicaceae (Calochortaceae, Liliaceae)

- Streptopus amplexifolius* (L.) DC. (25) B, D, F, L, P, W; 2255–3210m; fw, lf, ma, sf, wm, wt.

Cornaceae

- Cornus sericea* L. var. *sericea* (26) B, F, G, L, P, S, T, W; 1860–3050m; af, bs, dm, fw, rs, sa, wm, wt.

Crassulaceae

- # ♦ *Crassula aquatica* (L.) Schönl. (1) D; 2195m; aq; (*C. solieri*, *Tillaea aquatica*).
Sedum integrifolium (Raf.) A. Nelson (41) B, D, F, G, P, T, W; 2665–3830m; at, gr, ma, wm, wt.
Sedum lanceolatum Torr. (112) B, D, F, M, P, S, T, W; 1790–4110m; at, bs, df, dm, ds, fw, gr, jw, lf, lm, sa, sf, wf, wm.
Sedum rhodanthum A. Gray (69) B, D, F, G, L, M, P, S, T, W; 2375–3795m; at, dm, fw, gr, ma, sa, wm, wt.

Cyperaceae

- Carex albonigra* Mack. (23) B, D, G, P, T, W; 2485–3830m; at, dm, fw, gr, ma, sf, wf, wm.
Carex aquatilis Wahlenb. var. *aquatilis* (86) B, D, F, G, L, M, P, S, T, W; 2210–3795m; at, fw, gr, ma, sa, wm, wt.
Carex athrostachya Olney (20) B, F, M, S; 2225–2895m; dm, fw, sa, wm, wt.
Carex aurea Nutt. (31) B, D, F, G, L, M, P, T; 2260–3420m; af, fw, lm, ma, sa, wm, wt.
Carex breweri Boott var. *paddoensis* (Suksd.) Cronq. (20) D, F, G, P; 3025–3830m; at, dm, gr, lm, wm.
Carex brunnescens (Pers.) Poir. var. *brunnescens*, (10) B, D, F, P, T; 2735–3160m; fw, ma, sa, wm, wt.
Carex buxbaumii Wahl. (2) D; 2935–3175m; ma, wm.
Carex canescens L. var. *canescens* (38) B, D, F, L, P, T, W; 2255–3325m; fw, ma, sa, wm, wt.
Carex capillaris L. (13) D, F, G, P, W; 2440–3790m; ma, wm, wt.
Carex capitata L. (15) B, D, P, W; 2865–3795m; at, dm, fw, gr, ma, wm, wt.
Carex chalciolepis T. Holm (10) B, D, F, P, T; 2840–3670m; at, dm, ma, wm, wt; (*C. atrata* var. *chalciolepis*).
 ♦ *Carex concinna* R. Br. (2) G; 2440m; fw.
Carex disperma Dewey (30) B, D, F, G, L, M, P, T, W; 2175–3365m; af, fw, ma, sa, wm, wt.

- Carex douglasii* Boott (28) B, F, G, L, M, P, S, W; 1725–2895m; bs, dm, ds, sa, wm.
- Carex duriuscula* C.A. Mey. (7) F, L, P, T; 2375–3360m; bs, dm, wm; (*C. stenophylla*).
- Carex ebenea* Rydb. (2) B, P; 2590–2745m; gr, wm.
- Carex elynoides* Holm (66) B, D, F, G, P, T, W; 2800–3720m; at, dm, gr, lm, wm, wt.
- Carex epapillosa* Mack. (34) B, D, F, P, W; 2440–3600m; at, dm, fw, gr, sa, wf, wm, wt; (*C. atrata* var. *erecta*).
- Carex filifolia* Nutt. (11) B, L, T; 1725–2875m; bs, df, dm, jw.
- ◆ *Carex fuliginosa* Schkuhr ssp. *misandra* (R. Brown) Nyman (11) D, T, W; 2865–3830m; dm, ma, wm; (*C. misandra*).
- Carex geyeri* Boott (8) B, F, L, P; 2210–2895m; af, df, ds, lf, lm, wm.
- Carex gynocrates* Wormsk. ex Drejer (6) D, F, G, W; 2440–3790m; fw, ma, wm.
- Carex haydeniana* Olney (41) B, D, F, G, M, P, T, W; 2620–3790m; at, dm, fw, gr, ma, sa, wm, wt.
- Carex hoodii* Boott (42) B, D, F, G, L, M, P, T, W; 1850–3110m; af, bs, df, dm, ds, fw, gr, lf, rs, sf, wf, wm.
- Carex illota* L.H. Bailey (40) B, D, F, P, S, W; 2440–3795m; at, dm, fw, ma, sa, wm, wt.
- ◆ *Carex incurviformis* Mack. var. *danaensis* (Stacey) Hermann (4) D, F, G, T; 3415–3730m; dm, wm; USFS R4 Sensitive.
- Carex interior* L.H. Bailey (3) G, L, W; 2470–2800m; wm, wt.
- # *Carex jonesii* L.H. Bailey (1) F; 2590m; dm.
- Carex lachenalii* Schkuhr. (12) D, F; 2775–3965m; at, gr, wm, wt; (*C. bipartita*).
- ◆ *Carex lenticularis* Michx. var. *dolia* (Jones) Standley (1) D; 3340m; sa.
- Carex lenticularis* Michx. var. *pallida* (Boott) Dorn (11) B, D, F; 2225–3150m; fw, rs, sa, wm, wt.
- Carex leporinella* Mack. (14) B, D, F, G, P; 2590–3535m; at, bs, dm, gr, lm, sa, wm.
- Carex limosa* L. (4) B, D, P; 2840–3175m; ma, wm.
- ◆ *Carex livida* (Wahl.) Willd. (6) P; 2800–3500m; ma, wm; USFS R2 Sensitive.
- ◆ *Carex luzulina* Olney var. *atropurpurea* Dorn (16) B, D, F, P; 2990–3500m; dm, gr, ma, wf, wm; USFS R4 Sensitive.
- Carex macloviana* d'Urv (50) B, D, F, G, M, P, T, W; 2315–3790m; at, dm, fw, gr, lm, ma, sa, sf, wf, wm, wt.
- ◆ *Carex microglochin* Wahl. (11) D, F, P, T; 2375–4025m; ma, sa.
- Carex microptera* Mack. var. *limnophila* (F.J. Herm.) Dorn (16) B, D, F, L, P, S, T, W; 2210–2800m; fw, wm, wt.
- Carex microptera* Mack. var. *microptera* (61) B, D, F, G, L, M, P, T, W; 1860–3350m; af, at, bs, dm, fw, gr, lf, ma, rs, sa, sf, wm, wt.
- Carex nardina* Fries (12) B, D, F, G, P, W; 2865–4025m; at, dm, gr, lm, ma, wm.
- Carex nebrascensis* Dewey (18) B, D, F, G, L, P, S, T, W; 1725–2520m; af, fw, ma, sa, wm, wt.
- ◆ *Carex nelsonii* Mack. (11) D, P, T, W; 2865–4110m; dm, ma, wm.
- Carex neurophora* Mack. (3) F, P, W; 2680–3015m; fw, lf.
- Carex nigricans* C.A. Mey. (36) B, D, F, P, W; 2840–3795m; at, dm, fw, gr, sf, wm, wt.
- Carex nova* L.H. Bailey var. *pelocarpa* (F.J. Herm.) Dorn (53) B, D, F, G, P, T, W; 2865–3965m; at, dm, gr, lm, ma, wm, wt.
- Carex obtusata* Lilj. (3) F, W; 2470–2815m; dm, wm.
- Carex pachystachya* Cham. ex Steud. (6) B, F, G; 2375–3050m; dm, fw, lm, wm.
- Carex paupercula* Michx. (1) P; 3025–3225m; ma.
- Carex paysonis* Clokey (70) B, D, F, G, M, P, W; 2760–3870m; at, dm, fw, gr, ma, wm.
- Carex pellita* Muhl. ex Willd. (19) B, F, G, L, M, P, S, T, W; 2175–2575m; af, fw, sa, wm, wt; (*C. lanuginosa*).
- Carex petasata* Dewey (3) B, T; 2375–2620m; bs, sf.
- Carex phaeocephala* Piper (93) B, D, F, G, L, P, T, W; 2635–3830m; at, bs, dm, fw, gr, lm, sf, wf, wm.
- Carex praeceptorum* Mack. (15) B, D, F, P; 2680–3295m; fw, ma, wm, wt.
- Carex praegracilis* W. Boott (7) F, M, S; 2375–2715m; bs, dm, wm.
- Carex praticola* Rydb. (28) B, D, F, G, L, M, P, T, W; 2345–3235m; bs, dm, fw, gr, lf, sf, wm; (includes *C. platylepis*).
- Carex pyrenaica* Wahlenb. (25) B, D, F, G, P, W; 2865–3965m; at, dm, gr, wm, wt.
- Carex raynoldsii* Dewey (80) B, D, F, G, L, M, P, T, W; 2325–3625m; af, at, bs, df, dm, fw, gr, lf, ma, sf, wm, wt.
- Carex rossii* Boott (113) B, D, F, G, L, M, P, S, T, W; 1790–3445m; af, bs, df, dm, ds, fw, gr, jw, lf, lm, rs, sf, wf, wm.
- Carex rupestris* All. (5) D, G, P, T; 3175–3535m; at, dm, lm.
- Carex saxatilis* L. (36) B, D, F, G, P; 2485–3420m; af, aq, fw, ma, wm, wt.
- Carex scirpoidea* Michx. var. *pseudoscirpoidea* (Rydb.) Cronq. (70) B, D, F, G, P, T, W; 2935–4110m; at, dm, gr, wf, wm.
- Carex scirpoidea* Michx. var. *scirpoidea* (1) P; 2925m; wt.
- Carex scopulorum* T. Holm var. *scopulorum* (75) B, D, F, M, P, T, W; 2560–3830m; at, dm, fw, gr, lf, ma, wm, wt.
- Carex simulata* Mack. (17) B, F, P, T, W; 2375–2900m; ma, wm.
- Carex spectabilis* Dewey (3) D, F, P; 2990–4025m; dm, wm.
- Carex stenoptila* F.J. Herm. (16) B, D, P, T, W; 2680–3455m; af, at, dm, fw, gr, ma, wm, wt.
- Carex stevenii* (T. Holm) Kalela (28) B, D, F, G, L, M, P, T, W; 2530–3790m; dm, fw, ma, wm, wt; (*C. norvegica* var. *stevenii*).
- Carex subnigricans* Stacey (8) B, F, G, P, W; 2835–3810m; at, dm, gr, wm.
- Carex tenera* Dewey (1) F; 2315m; fw.
- Carex utriculata* Boott (84) B, D, F, G, L, M, P, S, T, W; 1960–3330m; aq, fw, lf, ma, sa, wm, wt; (*C. rostrata*).
- Carex vallicola* Dewey (42) B, F, L, M, P, S, T, W; 1850–2865m; af, bs, dm, ds, gr, lw, wm, wt.
- # *Carex vernacula* L.H. Bailey (1) F; 2835m; wm; (*C. foetida* var. *vernacula*).
- Carex vesicaria* L. (23) B, F, M, P, W; 2225–3050m; fw, ma, sa, wm, wt.
- Carex viridula* Michx. (2) F; 2315m; sa; (*C. oederi*).
- Carex xerantica* Bailey (7) L, P, W; 1850–2860m; bs, dm, ds; (*C. tahoensis*).
- Eleocharis acicularis* (L.) Roem. & Schult. (12) B, D, F, P; 2375–3120m; aq, sa, wm, wt.
- Eleocharis palustris* (L.) Roem. & Schult. (25) B, D, F, L, P, S; 2225–3120m; aq, ma, sa, wm, wt.
- Eleocharis quinqueflora* (Hartm.) O. Schwarz (14) B, D, P, W; 2840–3500m; aq, ma, sa, wm, wt; (*E. pauciflora*).
- Eleocharis rostellata* (Torrey) Torrey (1) F; 2345m; wm.
- Eriophorum angustifolium* Honck. (5) D, P; 2840–2970m; ma, sa, wm; (*E. polystachion*).
- ◆ *Eriophorum callitrix* Cham. ex Meyer (4) D, P, T; 3110–3430m; gr, wm, wt.
- ◆ *Eriophorum chamissonis* Meyer (1) D; 2930–2985m; sa; USFS R2 Sensitive.
- ◆ *Eriophorum scheuchzeri* Hoppe (11) D, F, P; 3050–3350m; wm.
- Kobresia myosuroides* (Vill.) Fiori & Paol. (12) D, G, T, W; 2865–3790m; at, dm, wm.
- ◆ *Kobresia simpliciuscula* (Wahl.) Mack. (1) D; 3130m; ma; USFS R2 Sensitive.
- Schoenoplectus acutus* (Muhl. ex Bigelow) Löve & Löve var. *occidentalis* (Wats.) Smith (1) F; 2440m; aq; (*Scirpus acutus*).
- Schoenoplectus tabernaemontani* (Gmelin) Palla (1) F; 2375–2440m; wm; (*Scirpus validus*).

Elaeagnaceae

- Elaeagnus commutata* Bernh. ex Rydb. (13) B, F, G, L, M, T, W; 1725–2590m; af, bd, fw, gr, rs, sa.

Shepherdia canadensis (L.) Nutt. (80) B, D, F, G, L, M, P, S, T, W; 2065–3240m; af, bd, bs, df, dm, fw, gr, lf, lw, sa, sf, wf, wm, wt.

Elatinaceae

Elatine rubella Rydb. (2) B, F; 2225–2345m; aq; (*E. triandra*).

Ericaceae

Arctostaphylos uva-ursi (L.) Spreng. (55) B, D, F, G, L, M, P, S, T, W; 2285–3200m; af, bd, bs, df, dm, gr, lf, lw, sa, sf, wf, wm, wt; (includes vars. *stipitata* and *uva-ursi*).

Chimaphila umbellata (L.) W.P.C. Barton var. *occidentalis* (Rydb.) S.F. Blake (2) L, P; 2605–2860m; lf.

Gaultheria humifusa (Graham) Rydb. (8) B, D, F, W; 2530–3240m; lf, ma, sf, wf.

Kalmia microphylla (Hook.) A. Heller (29) B, D, F, P, W; 2680–3795m; at, fw, ma, sf, wm, wt.

Ledum glandulosum Nutt. var. *glandulosum* (6) D, P, W; 2575–3120m; fw; (*Rhododendron columbianum*).

Menziesia ferruginea Smith (1) W; 2680–2690m; fw.

Moneses uniflora (L.) A. Gray (8) D, F, G, M, T; 2440–3160m; fw, lf, ma, sf.

Monotropa hypopitys L. (2) D, W; 2600–2985m; fw; (*Hypopitys monotropa*).

Orthilia secunda (L.) House (43) B, D, F, G, L, M, P, S, T, W; 2255–3230m; af, fw, gr, lf, sf, wf, wt.

Phyllodoce empetriformis (Sw.) D. Don (44) B, D, F, P, W; 2680–3840m; at, dm, fw, ma, wm, wt.

Pterospora andromedea Nutt. (4) B, L; 2255–2725m; df, lf.

Pyrola asarifolia Michx. var. *asarifolia* (18) B, F, G, L, M, P, T, W; 2175–3200m; af, fw, lf, ma, sf, wm, wt.

Pyrola chlorantha Sw. (9) B, F, G, L, P; 2440–3050m; fw, lf.

Pyrola minor L. (11) B, D, F, M, T; 2255–3170m; fw, lf, sf, wm.

Vaccinium membranaceum Dougl. ex Torrey (1) W; 2680–2690m; fw.

Vaccinium occidentale Gray (37) B, D, F, P; 2560–3500m; fw, lf, ma, wf, wm, wt.

Vaccinium scoparium Leiberg ex Coville (84) B, D, F, L, M, P, T, W; 2440–3565m; af, at, bs, df, dm, fw, gr, lf, ma, sa, sf, wf, wm, wt.

Euphorbiaceae

Euphorbia brachycera Engelm. (2) L; 2065–2175m; dm.

*● *Euphorbia esula* L. var. *uralensis* (Fisch. ex Link) Dorn (9) L; 1725–2490m; bs, df, jw, rs, wt.

Fabaceae

Astragalus adsurgens Pall. var. *robustior* Hook. (3) T; 2165–2590m; bs, ds; (*A. laxmannii* var. *robustior*).

Astragalus agrestis Douglas ex G. Don (29) B, F, G, L, M, P, S, T, W; 1860–2990m; af, bd, bs, df, dm, ds, lf, rs, wm, wt.

Astragalus alpinus L. var. *alpinus* (99) B, D, F, G, M, P, T, W; 2345–3965m; af, at, bd, bs, dm, ds, fw, gr, lf, ma, rs, sa, sf, wf, wm, wt.

Astragalus argophyllus Nutt. var. *argophyllus* (21) B, F, L, S, W; 1725–2590m; bs, dm, ds, wm, wt.

Astragalus australis (L.) Lam. var. *glabriusculus* (Hook.) Isely (7) D, F, G; 2680–3755m; at, dm, lm.

Astragalus bisulcatus (Hook.) A. Gray var. *bisulcatus* (5) L, M, W; 1725–2560m; bd, bs, wt.

Astragalus bodinii E. Sheld. (3) B, F, S; 2195–2440m; wm.

Astragalus canadensis L. var. *brevidens* (Gand.) Barneby (10) B, F, M; 2195–2440m; af, df, dm, wt.

Astragalus chamaeleuce A. Gray (1) L; 1765–1830m; lm.

Astragalus cibarius Sheld. (1) B; 2285–2410m; bs.

Astragalus convallarius Greene var. *convallarius* (6) B, F, L; 1725–2410m; bs, jw; (mistakenly cited as *A. diversifolius* by Fertig 1992).

Astragalus drummondii Douglas ex Hook. (11) L, T; 1725–2510m; bs, dm, ds, jw.

Astragalus eucosmus B.L. Robins. (20) B, D, F, G, L, M, P, S, T; 2210–3160m; bs, fw, lf, lm, ma, sa, wm.

Astragalus flavus Nutt. (1) B; 2410m; sa.

◆ *Astragalus gilviflorus* Sheld. var. *purpureus* Dorn (2) T; 2345–2390m; bs; WY BLM Sensitive.

Astragalus kentrophyta A. Gray var. *jessiae* (Peck) Barneby (1) S; 2285m; bs.

Astragalus kentrophyta A. Gray var. *tegetarius* (Wats.) Dorn (79) B, D, F, G, L, M, P, S, T, W; 1960–3815m; at, bd, bs, df, dm, ds, gr, jw, lm, lw, sa, sf, wm.

Astragalus miser Douglas var. *decumbens* (Nutt. ex T. & G.) Cronq. (61) B, D, F, L, M, P, S, T, W; 2255–2895m; bd, bs, dm.

Astragalus miser Douglas var. *hylophilus* (Rydb.) Barneby (60) B, D, F, G, L, M, P, T, W; 1725–3525m; af, at, bs, df, dm, fw, jw, lf, lm, sa, sf, wm.

Astragalus miser Douglas var. *praeteritus* Barneby (2) F, M; 2440–2560m; bd, dm.

Astragalus missouriensis Nutt. var. *missouriensis* (2) L; 1765–1860m; bs.

Astragalus purshii Douglas ex Hook. var. *purshii* (20) B, F, L, P, S, T; 1860–2625m; bs, dm.

◆ *Astragalus shultziorum* Barneby (1) G; 3505m; lm (*A. molybdenus* var. *shultziorum*).

Astragalus spatulatus E. Sheld. (2) S; 2285–2330m; bs, dm.

Astragalus tenellus Pursh (2) M; 2315–2500m; lw.

* *Caragana arborescens* Lam. (1) F; 2255m; ds.

* *Coronilla varia* L. (1) F; 2375m; wm.

Glycyrrhiza lepidota Pursh (3) L, T; 1725–2255m; rs, wt; (includes vars. *glutinosa* & *lepidota*).

Hedysarum alpinum L. var. *philoscia* (A. Nels.) Rollins (15) D, F, L, M, P, T, W; 2375–3525m; bs, df, dm, lf, wf, wm; (var. *americanum*).

Hedysarum boreale Nutt. var. *boreale* (2) L; 1860–2175m; bs, dm.

Hedysarum boreale Nutt. var. *pabulare* (A. Nelson) Dorn (3) L; 1765–1990m; bs, jw.

Hedysarum occidentale Greene (35) B, D, F, G, L, M, P, T; 2255–3350m; af, bs, df, dm, fw, gr, lf, lm, lw, sf, wf, wm.

◆ *Lathyrus eucosmus* Butters & St. John (1) L; 1840m; ds.

Lupinus argenteus Pursh var. *argenteus* (59) B, D, F, G, L, M, P, S, T, W; 1725–3535m; af, at, bs, df, dm, ds, gr, sf, wf, wm, wt.

Lupinus argenteus Pursh var. *argophyllus* (A. Gray) S. Watson (62) B, D, F, G, L, M, P, S, W; 2065–3200m; af, bs, dm, ds, fw, gr, lf, sa, sf, wm, wt.

Lupinus argenteus Pursh var. *depressus* (Rydb.) C.L. Hitchc. (11) B, G, L, P, T, W; 2665–3535m; at, dm, ds, sf.

Lupinus argenteus Pursh var. *laxiflorus* (Douglas ex Lindl.) Dorn (5) G, M, W; 2440–2620m; bd, bs, dm.

Lupinus argenteus Pursh var. *rubricaulis* (Greene) S.L. Welsh (26) B, D, F, G, M, S, W; 2375–3230m; af, bs, dm, fw, lf, sa, sf.

Lupinus lepidus Douglas ex Lindl. var. *utahensis* (S. Watson) C.L. Hitchc. (48) B, D, F, L, M, P, S, W; 2285–3500m; af, bs, dm, ds, fw, sa, sf, wm, wt.

Lupinus polyphyllus Lindl. var. *humicola* (A. Nelson) Barneby (24) D, F, L, M, S, W; 2065–3170m; bs, dm, ds, fw, lf, sf, wf.

Lupinus polyphyllus Lindl. var. *prunophilus* (M.E. Jones) Phillips (6) D, W; 2640–3210m; bs, dm, gr, wm.

Lupinus sericeus Pursh (19) F, G, L, P, S, W; 2065–2900m; af, bs, dm, gr, jw, lf.

* *Medicago lupulina* L. (5) B, L, M; 1725–2440m; bs, dm, sa, wm.

* *Medicago sativa* L. (9) B, F, L, M, P, T; 2175–2630m; bs, dm, ds.

* *Melilotus albus* Medik. (2) F, T; 2255–2500m; ds.

* *Melilotus officinalis* (L.) Pall. (17) B, D, F, L, M, P, S, T; 1725–3520m; bs, dm, ds, jw, lf, sa, wm.

* *Onobrychis viciifolia* Scop. (3) F, L; 2170–2560m; ds.

- Oxytropis borealis* DC. var. *viscida* (Nutt.) Welsh (22) D, F, G, M, T, W; 2375–3535m; at, bs, dm, lm, lw, sf, wf.
- Oxytropis campestris* (L.) DC. var. *cusickii* (Greenm.) Barneby (44) B, D, F, G, P, T; 2440–4110m; at, bs, dm, fw, gr, jw, lf.
- Oxytropis campestris* (L.) DC. var. *spicata* Hook. (21) D, F, L, P, S, T; 2375–2410m; bs; (var. *gracilis*).
- Oxytropis deflexa* (Pall.) DC. var. *foliolosa* (Hook.) Barneby (8) G; 2990–3535m; at, dm, lm.
- Oxytropis deflexa* (Pall.) DC. var. *sericea* Torr. & A. Gray (14) F, G, M, W; 2285–2590m; bd, bs, dm, rs, wm, wt.
- Oxytropis lagopus* Nutt. var. *atropurpurea* (Rydb.) Barneby (8) B, F, M; 2285–2530m; bs, lw.
- Oxytropis lagopus* Nutt. var. *lagopus* (2) T; 2255–250m; bs, lf.
- Oxytropis multiceps* Nutt. (1) S; 2330m; bs.
- ◆ *Oxytropis nana* Nutt. (1) T; 2255–2410m; bs.
- Oxytropis parryi* A. Gray (3) F, G; 2680–3050m; dm.
- Oxytropis podocarpa* A. Gray (4) B, D, F, P; 3180–3565m; at, dm, gr.
- Oxytropis sericea* Nutt. var. *sericea* (30) D, L, P, S, T, W; 1725–2860m; bs, df, dm, ds.
- Psoralidium lanceolatum* (Pursh) Rydb. (1) L; 1765–1880m; bs.
- Thermopsis rhombifolia* (Nutt. ex Pursh) Nutt. ex Richardson var. *annulocarpa* (A. Nelson) Wms. (3) L; 2065–2860m; bs, dm.
- Trifolium andinum* Nutt. var. *andinum* (4) L; 1725–2640m; bs, dm.
- ◆ *Trifolium barnebyi* (Isely) Dorn & Lichvar (17) L; 1725–1990m; jw, lm; WY BLM Sensitive.
- Trifolium dasyphyllum* Torr. & A. Gray (14) D, P, T; 2840–3500m; bs, dm.
- Trifolium gymnocarpon* Nutt. (14) B, F, L, P, S; 2285–2610m; bs, dm.
- * *Trifolium hybridum* L. (24) B, D, F, G, L, M, W; 2255–2925m; af, bs, lf, lm, sa, sf, wm, wt.
- Trifolium longipes* Nutt. var. *reflexum* A. Nelson (80) B, D, F, G, L, M, P, S, T, W; 2345–3520m; af, bs, dm, fw, lf, ma, sf, wm, wt.
- Trifolium nanum* Torrey (8) D, P, T; 2665–3765m; dm.
- Trifolium parryi* A. Gray var. *montanense* (Rydb.) Welsh (3) D; 3025–3520m; dm.
- * *Trifolium pratense* L. (5) B, F, M, P; 2175–2680m; bs, dm, fw, lf.
- * *Trifolium repens* L. (23) B, F, L, M, P, T, W; 2210–2925m; af, df, dm, ds, lf, rs, sa, sf, wm.
- Vicia americana* Muhl. ex Willd. var. *minor* Hook. (9) L, M, T, W; 1850–2620m; bd, bs, dm, wm, wt.
- Gentianaceae**
- Frasera speciosa* Douglas ex Griseb. (55) B, D, F, G, L, M, P, T, W; 2285–4025m; af, at, bs, df, dm, gr, sf, wm, wt.
- Gentiana affinis* Griseb. var. *affinis* (24) B, F, G, M, P, S, T, W; 2375–2850m; bs, dm, fw, ma, rs, wm, wt.
- Gentiana algida* Pall. (20) B, D, F, G, P, W; 2865–3790m; at, dm, gr, lm, sa, wm, wt.
- Gentiana aquatica* L. (2) F, G; 2440–2470m; wm.
- Gentiana calycosa* Griseb. (9) F, G; 2775–3535m; at, dm, sf.
- Gentiana prostrata* Haenke (8) D, F, G, P, T, W; 2865–3790m; at, wm, wt.
- Gentianella amarella* (L.) Börner var. *acuta* (Michx.) Herder (48) B, D, F, G, M, P, T, W; 2375–3965m; at, bs, dm, fw, gr, lf, sf, wf, wm, wt.
- Gentianella tenella* (Rottb.) Börner (9) B, D, F, G, P, T; 2860–3720m; at, gr, ma, wm.
- Gentianopsis barbellata* (Engelm.) Iltis (3) G, T; 3110–3415m; at, gr.
- Gentianopsis detonsa* (Rottb.) Ma var. *elegans* (A. Nelson) N.H. Holmgren (25) D, F, G, M, W; 2285–2950m; dm, ma, sa, wm, wt.
- Swertia perennis* L. (39) B, D, F, G, P, W; 2375–4025m; at, dm, fw, lf, lm, ma, wm, wt.
- Geraniaceae**
- * *Erodium cicutarium* (L.) L'Her. ex Aiton (1) L; 1860m; jw.
- Geranium richardsonii* Fisch. & Trautv (52) B, D, F, G, L, M, P, S, T, W; 1860–3365m; af, dm, fw, gr, lf, lm, ma, rs, sf, wm, wt.
- Geranium viscosissimum* Fisch. & C.A. Mey. ex C.A. Mey. var. *incisum*

- (Torr. & A. Gray) N.H. Holmgren (18) D, F, L, M, T, W; 2155–3210m; af, bs, dm, wm; (var. *nervosum*).
- Geranium viscosissimum* Fisch. & C.A. Mey. ex C.A. Mey. var. *viscosissimum* (58) B, D, F, G, L, M, P, S, T, W; 1850–3170m; af, bs, df, dm, ds, fw, gr, lf, lm, sf, wm, wt.
- Grossulariaceae**
- Ribes cereum* Douglas (83) B, D, F, G, L, M, P, S, T; 1725–3525m; af, bd, bs, df, dm, ds, fw, gr, jw, lm, lw, sf, wf.
- Ribes hudsonianum* Richards. var. *petiolare* (Dougl.) Jancz. (31) B, D, F, G, L, P, S, T, W; 2325–3200m; af, bs, fw, gr, lf, sf, wm, wt.
- Ribes inerme* Rydb. var. *inerme* (17) B, F, L, M, W; 2285–2865m; bs, dm, wt.
- Ribes lacustre* (Pers.) Poir. (56) B, D, F, G, L, P, W; 2065–3600m; af, bs, df, dm, ds, fw, gr, lf, sf, wf, wm, wt.
- Ribes montigenum* McClatchie (49) B, D, F, G, M, P, T, W; 2375–3475m; af, at, bs, dm, fw, gr, lf, lm, sf, wf, wm.
- Ribes oxyacanthoides* L. var. *setosum* (Lindl.) Dorn (23) B, D, F, G, L, M, P, T, W; 2315–3390m; af, bs, dm, fw, gr, lf, lm, wm, wt.
- Ribes viscosissimum* Pursh (26) B, D, F, L, P, T, W; 2255–2895m; af, df, lf, sf.
- Haloragaceae**
- Myriophyllum sibiricum* Kom. (5) F, M; 2440–2715m; aq.
- ◆ *Myriophyllum verticillatum* L. (1) D; 2930–2985m; aq.
- Hyacinthaceae**
- * *Muscari botryoides* (L.) Hill (1) S; 2440–2500m; af.
- Hydrocharitaceae**
- Elodea bifoliata* St. John (1) F; 2380m; aq; (*E. longivaginata*).
- Elodea nuttallii* (Planchon) St. John (1) F; 2440m; aq.
- Iridaceae**
- Iris missouriensis* Nutt. (7) L, S, T; 2260–2620m; af, bs, wm.
- Sisyrinchium idahoense* Bickn. var. *occidentale* (Bickn.) D. Henderson (18) B, F, G, M, S, W; 2285–2745m; ma, rs, sa, wm, wt.
- Sisyrinchium montanum* Greene var. *montanum* (2) L, T; 2255–2475m; lm, wm.
- Juncaceae**
- # *Juncus alpinoarticulatus* Chaix (1) F; 2345m; sa.
- Juncus arcticus* Willd. var. *balticus* (Willd.) Trautv. (56) B, D, F, G, L, M, P, S, T, W; 1725–3170m; af, aq, dm, ds, fw, lf, ma, rs, sa, wm, wt; (*J. balticus*, includes var. *vallicola*).
- Juncus biglumis* L. (6) D, W; 2865–3790m; ma, wm.
- Juncus bufonius* L. (5) B, M, S; 2375–2745m; fw, lf, wm.
- Juncus castaneus* Sm. (9) D, P, W; 2865–3790m; ma, sa, wm, wt.
- Juncus confusus* Coville (29) B, D, F, G, L, M, T, W; 2160–3120m; bs, df, dm, ds, fw, gr, lf, sa, wm.
- Juncus drummondii* E. Mey. (66) B, D, F, G, L, M, P, T, W; 2525–4110m; at, dm, fw, gr, lm, sf, wf, wm, wt.
- Juncus dudleyi* Wiegand (4) D, L, P; 2340–2995m; bs, dm, wm; (*J. tenuis* var. *dudleyi*).
- Juncus ensifolius* Wikstr. var. *ensifolius* (8) F, L, P, S; 1960–2885m; ma, sa, wm.
- Juncus ensifolius* Wikstr. var. *montanus* (Engelm.) C.L. Hitchc. (29) B, D, F, G, M, P, S, T, W; 2175–2955m; dm, fw, ma, sa, wm, wt; (includes *J. tracyi*).
- Juncus hallii* Engelm. (16) B, D, F, P, W; 2680–2895m; bs, dm, fw, ma, wm, wt.
- Juncus interior* Wiegand (1) P; 2520–2615m; wm.
- Juncus longistylis* Torr. (21) B, D, F, L, M, P, S, T; 2375–3120m; dm, fw, rs, sa, wm.
- Juncus mertensianus* Bong. (77) B, D, F, L, M, P, S, T, W; 2210–3965m; at, dm, fw, lf, sa, wm, wt.
- Juncus nevadensis* S. Watson (12) D, F, L, P; 2175–3100m; af, sa, wm, wt.

Juncus nodosus L. (1) L; 2165m; wm.

Juncus parryi Engelm. (48) B, D, F, G, L, P, W; 2460–3780m; at, dm, fw, gr, sf, wf, wm.

Juncus regelii Buch. (1) P; 2485–2520m; af.

◆ *Juncus triglumis* L. var. *albescens* Lange (12) D, F, P, T; 2875–4025m; ma, sa, wm.

◆ *Juncus vaseyi* Engelm. (6) B, F; 2225–2315m; fw, sa.

Luzula parviflora (Ehrh.) Desv. (94) B, D, F, G, L, M, P, S, T, W; 2255–3795m; af, at, dm, fw, gr, lf, ma, sa, sf, wf, wm, wt.

Luzula spicata (L.) DC. (94) B, D, F, G, M, P, T, W; 2470–4110m; at, bs, dm, fw, gr, lf, sf, wf, wm, wt.

Luzula wahlenbergii Rupr. (2) D, F; 3110–3325m; wm, wt; (*L. piperi*).

Juncaginaceae

Triglochin maritima L. var. *elata* (Nutt.) A. Gray (5) F, G; 2315–2500m; ma, sa.

Triglochin palustris L. (7) F, G, P, W; 2440–2950m; aq, ma, wm.

Lamiaceae

Agastache urticifolia (Benth.) Kuntze var. *urticifolia* (1) F; 2500–2745m; af.

Dracocephalum parviflorum Nutt. (11) B, F, G, L, M; 2255–2955m; af, dm, ds, lf, sa, sf.

Mentha arvensis L. (16) B, F, P, S; 2195–2630m; aq, fw, sa, wm, wt.

Monarda fistulosa L. var. *menthifolia* (Grah.) Fernald (1) L; 1860–1910m; bs.

Prunella vulgaris L. var. *lanceolata* (W.P.C. Barton) Fernald (5) F; 2375–2680m; ma, wm.

Stachys palustris L. var. *pilosa* (Nutt.) Fernald (2) F, S; 2185–2375m; af, wm.

Lentibulariaceae

Utricularia macrorhiza Le Conte (4) B, F, P; 2255–2680m; aq, mb; (*U. vulgaris*).

◆ *Utricularia minor* L. (3) P; 2840–2900m; aq; USFS R2 Sensitive.

Liliaceae (Calochortaceae)

Calochortus eurycarpus Wats. (1) B; 2500m; wm.

Calochortus nuttallii Torr. & A. Gray (20) B, F, G, L, P, T; 1725–2895m; bs, jw.

Fritillaria atropurpurea Nutt. (38) B, F, G, L, M, P, S, T; 1765–3015m; af, bs, df, dm, fw, lf, lw.

Fritillaria pudica (Pursh) Spreng. (5) B, F, M, W; 2470–2965m; af, bs, dm.

Lloydia serotina (L.) Reichenb. var. *serotina* (33) B, D, F, G, P, T, W; 2635–3815m; at, dm, gr, lm, wm.

Prosartes trachycarpa S. Watson (5) L; 1860–2510m; af, rs.

Limnanthaceae

Floerkea proserpinacoides Willd. (12) B, F, M, W; 2375–2895m; af, bs, dm, ds, fw, wm.

Linaceae

Linum lewisii Pursh var. *lewisii* (46) F, G, L, M, T, W; 1725–3525m; bd, bs, dm, ds, jw, lm, lw.

Loasaceae

Mentzelia montana (Davidson) Davidson (2) F; 2375–2440m; bs.

Malvaceae

Iliamna rivularis (Douglas ex Hook.) Greene (4) B, F, L, M; 2285–2590m; bs, dm, ds.

* *Malva neglecta* Wallr. (1) B; 2560–2620m; ds.

Sphaeralcea coccinea (Nutt.) Rydb. (7) B, F, L, T; 1725–2390m; bs, dm, ds, jw.

Melanthiaceae (Liliaceae)

Zigadenus elegans Pursh (57) B, D, F, G, L, P, T, W; 2300–3795m; af, at, dm, fw, gr, lf, lm, sf, wm, wt.

Zigadenus paniculatus (Nutt.) Wats. (1) F; 2440–2745m; gr.

Zigadenus venenosus S. Watson var. *gramineus* (Rydb.) Walsh ex Peck (36) B, F, L, P, S; 1725–2530m; af, bs, dm, ds, gr, jw.

Menyanthaceae

Menyanthes trifoliata L. (2) F, P; 2940–3080m; aq.

Myrsinaceae

Glaux maritima L. (1) L; 1725–1915m; dm; (*Lysimachia maritima*).

Najadaceae

◆ *Najas guadalupensis* (Spreng.) Morong (1) F; 2375m; aq; reported by Mohlenbrock (1991)

Nyctaginaceae

Mirabilis linearis (Pursh) Hiemerl (1) B; 2225m; ds.

Nymphaeaceae

Nuphar polysepala Engelm. (19) B, D, F, P, W; 2255–3460m; aq.

Onagraceae

Chamerion angustifolium (L.) Holub var. *angustifolium* (61) B, D, F, G, L, M, P, S, T, W; 2255–3565m; af, at, bd, bs, ds, fw, gr, lf, lm, ma, sa, sf, wm, wt; (*Epilobium angustifolium* var. *angustifolium*).

Chamerion angustifolium (L.) Holub var. *canescens* (A.W. Wood) N.H. Holmgren & P.K. Holmgren (11) B, D, F, L, M, P; 2315–3120m; dm, fw, lf, sa, wm; (*Epilobium angustifolium* var. *canescens*).

Chamerion latifolium (L.) Holub (3) M; 2315–2995m; dm, sa; (*Epilobium latifolium*).

Epilobium anagallidifolium Lam. (25) B, D, F, G, L, M, P, T, W; 2605–3965m; at, dm, fw, gr, lm, ma, wm, wt.

Epilobium brachycarpum Presl (17) B, F, L, M; 1860–2800m; bs, dm, ds, lf, sa, wm.

Epilobium ciliatum Raf. var. *ciliatum* (34) B, F, G, M, P, S, T, W; 2285–3080m; af, df, dm, fw, ma, sa, wm, wt.

Epilobium ciliatum Raf. var. *glandulosum* (Lehm.) Dorn (3) S, W; 2375–2680m; fw.

Epilobium clavatum Trel. (27) D, F, G, P, T, W; 2730–3670m; at, dm, fw, gr, lm, ma, wm, wt.

Epilobium halleanum Hausskn. (51) B, D, F, G, L, M, P, W; 2375–3720m; at, bs, df, dm, fw, gr, lf, ma, sf, wm, wt.

Epilobium hornemannii Rchb. var. *hornemannii* (24) B, D, F, L, M, P, T, W; 2315–3250m; fw, sa, wm, wt.

Epilobium lactiflorum Hausskn. (23) B, D, F, G, M, P, W; 2530–3720m; at, dm, fw, lf, ma, sa, sf, wm, wt.

Epilobium oregonense Hausskn. (1) W; 2600–2690m; fw.

Epilobium palustre L. var. *gracile* (Farw.) Dorn (1) W; 2600–2690m; fw.

Epilobium palustre L. var. *palustre* (3) F, G; 2375–2440m; ma, wm.

Epilobium pygmaeum (Speg.) Hoch & Raven (1) S; 2350m; rs; (*Boisduvalia glabella*).

Epilobium saximontanum Hausskn. (27) B, D, F, G, L, M, P, T, W; 2335–3455m; dm, fw, lf, lm, ma, sa, wm, wt.

Epilobium suffruticosum Nutt. (5) M; 2315–2440m; sa.

Gayophytum decipiens F.H. Lewis & Szweyk. (2) F, S; 2315m; bs.

Gayophytum diffusum Torr. & A. Gray var. *strictipes* (Hook.) Dorn (53) B, D, F, L, M, P, S, W; 2255–3460m; af, bs, dm, ds, gr, lf, lm, rs, sa, sf, wm.

Gayophytum racemosum Torr. & A. Gray (21) B, F, M, P, S; 2285–3295m; af, bs, dm, ds, fw, gr, lf, lm, wm.

Gayophytum ramosissimum Torr. & A. Gray (18) B, F, M, S; 2225–2680m; bs, dm, ds, sa.

Oenothera cespitosa Nutt. var. *cespitosa* (17) L, M, T, W; 1790–3525m; af, bd, bs, df, dm, jw, lw.

Oenothera flava (A. Nelson) Garrett (2) F; 2375–2410m; bs, ds.

Oenothera nuttallii Sweet (3) F, P, T; 2175–2410m; bs, ds.

Oenothera pallida Lindl. var. *trichocalyx* (Nutt.) Dorn (3) L; 1960–1990m; jw.

- Oenothera suffrutescens* (Ser.) W.L. Wagner & Hoch (4) L; 1725–1975m; bs, jw; (*Gaura coccinea*).
Oenothera villosa Thunb. var. *strigosa* (Rydb.) Dorn (2) F, L; 2255–2600m; ds.
Taraxia breviflora (Torr. & A. Gray) Nutt. ex Small (8) F, M; 2345–2715m; bs, rs, sa, wm; (*Camissonia breviflora*).
Taraxia subacaulis (Pursh) Rydb. (6) F, S, W; 2375–2790m; bs, dm, wt; (*Camissonia subacaulis*).

Orchidaceae

- Calypso bulbosa* (L.) Oakes var. *americana* (R. Br.) Luer (3) F, G, W; 2470–2745m; af, lf, sf.
Corallorhiza maculata (Raf.) Raf. var. *maculata* (9) B, L, P; 2255–2505m; af, df, lf.
 # *Corallorhiza maculata* (Raf.) Raf. var. *occidentalis* (Lindl.) Ames (1) P; 2680m; fw.
Corallorhiza striata Lindl. (1) L; 2300–2500m; af.
Corallorhiza trifida Châtel (15) B, D, F, G, L, P, W; 2390–3390m; af, fw, wm, wt.
Corallorhiza wisteriana Conrad (1) L; 2465–2510m; lf.
 ♦ *Cypripedium parviflorum* Salisb. var. *pubescens* (Willd.) Knight (1) L; 1950m; fw; USFS R2 & USFS R4 Sensitive.
Listera borealis Morong (4) G, W; 2750–3110m; ma, sf.
Piperia unalascensis (Spreng.) Rydb. (3) B, F; 2500–2745m; af.
Platanthera aquilonis Sheviak (14) D, F, G, L, M, W; 1860–3120m; fw, ma, sa, wm, wt; (*Habenaria hyperborea*).
Platanthera dilatata (Pursh) Lindl. ex L.C. Beck var. *albiflora* (Cham.) Ledeb. (6) P, W; 2605–2925m; fw, ma, gr.
Platanthera dilatata (Pursh) Lindl. ex L.C. Beck var. *dilatata* (20) B, D, F, G, P, W; 2345–3230m; af, fw, ma, wm.
Platanthera huronensis (Nutt.) Lindl. (14) B, F, G, M; 2285–2865m; fw, ma, sa, sf, wm; (*Habenaria hyperborea*).
Platanthera obtusata (Banks ex Pursh) Lindl. (6) F, G, W; 2515–2590m; ma, sf.
Spiranthes romanzoffiana Cham. (23) B, D, F, G, M, P, S, T; 2255–3160m; lf, ma, sa, wm, wt.

Orobanchaceae (Scrophulariaceae)

- castilleja angustifolia* (Nutt.) G. Don var. *angustifolia* (5) L; 1725–2560m; bs, dm.
Castilleja angustifolia (Nutt.) G. Don var. *dubia* A. Nelson (16) B, L, P, S, T; 2065–2700m; bs, dm, gr, jw.
Castilleja cusickii Greenm. (32) B, D, F, M, P, T, W; 2680–3270m; bs, dm, wm, wt.
Castilleja flava S. Watson var. *flava* (46) B, F, G, L, M, S, T, W; 2165–2895m; bd, bs, df, dm, lm, wm, wt.
Castilleja linariifolia Benth. (35) B, D, F, G, L, M, P, S, T, W; 2255–3160m; af, bs, df, dm, fw, lf; (includes hybrids with *C. miniata*).
Castilleja miniata Douglas ex Hook. var. *miniata* (84) B, D, F, G, L, M, P, S, W; 2210–3350m; af, dm, fw, gr, lf, ma, sa, sf, wm, wt.
Castilleja pallescens (A. Gray) Greenm. (33) L, P, S, T; 1765–3525m; bs, df, dm, gr, jw.
Castilleja pilosa (Wats.) Rydb. var. *longispica* (A. Nels.) N. Holmgren (17) F, M, S, T, W; 2315–2905m; bd, bs, dm.
Castilleja pulchella Rydb. (58) B, D, F, G, P, T, W; 2635–3840m; at, dm, gr, lm.
Castilleja rhexifolia Rydb. (48) B, D, F, G, M, P; 2375–3840m; af, at, dm, fw, gr, ma, sf, wf, wm, wt.
Castilleja sulphurea Rydb. (34) B, F, G, M, T; 2315–3475m; af, at, bd, bs, dm, fw, gr, lf, lm, sf, wm.
Cordylanthus ramosus Nutt. ex Benth. (5) B, F, M, S; 2225–2410m; bs.
Orobanche fasciculata Nutt. (12) B, F, L, M, P, S; 1765–2865m; bs, dm, fw, jw.
 # *Orobanche ludoviciana* L. var. *ludoviciana* (1) G; 2440m; bs.
Orobanche uniflora L. (14) B, F, L, M, P; 2160–3365m; af, bs, dm, ds, gr, wf, wm.

- Orthocarpus luteus* Nutt. (27) B, D, F, G, L, M, S; 2195–2940m; bs, dm, ds, wm.
Pedicularis bracteosa Benth. var. *paysoniana* (Pennell) Cronquist (67) B, D, F, G, L, M, P, T, W; 2325–3815m; af, at, dm, fw, gr, lf, sa, sf, wm, wt.
 # *Pedicularis contorta* Benth. var. *contorta* (1) F; 3050–3350m; wm.
Pedicularis groenlandica Retz (107) B, D, F, G, L, M, P, S, T, W; 2285–3840m; at, bs, dm, fw, gr, lf, ma, sa, wm, wt.
Pedicularis parryi A. Gray var. *parryi* (43) B, D, F, G, L, P, T, W; 2375–3815m; at, bs, df, dm, fw, gr, lf, ma, sf, wf, wm, wt.
Pedicularis parryi A. Gray var. *purpurea* Parry (20) D, F, G, M, T, W; 2530–3415m; at, bs, dm, lm, sf, wf, wm, wt.
Pedicularis procera A. Gray (6) B, F, G, M, W; 2255–2800m; af, fw, lf, sf.
 ♦ *Pedicularis pulchella* Pennell (1) T; 2665–3525m; dm.
Pedicularis racemosa Douglas ex Benth. var. *alba* (Pennell) Cronquist (16) B, D, F, G, M, W; 2680–3270m; dm, fw, sf, wf.

Papaveraceae (Fumariaceae)

- Corydalis aurea* Willd. var. *aurea* (22) B, F, G, L, M, S, T, W; 2255–2800m; af, bs, df, dm, fw, gr, lf, wt.
 ♦ *Papaver radicum* Rottb. ssp. *kluanense* (D. Löve) D.F. Murray (6) D, F, P; 3155–4110m; at, gr; (*P. coloradense*, *P. kluanense*, *P. lapponicum*).

Parnassiaceae (Saxifragaceae)

- parnassia fimbriata* König var. *fimbriata* (47) B, D, F, M, P, S, W; 2255–3600m; at, dm, fw, sa, sf, wm, wt.
 ♦ *Parnassia kotzebuei* Cham. ex Spreng. (5) D, G; 2935–3420m; at, fw, lm, wm, wt; USFS R2 Sensitive.
Parnassia palustris L. var. *montanensis* (Fern. & Rydb. ex Rydb.) C.L. Hitchc. (10) F, G, M, P; 2345–2490m; ma, wm, wt.

Phrymaceae (Scrophulariaceae)

- Mimulus breweri* (Greene) Coville (6) B, F; 2440–2895m; bd, gr, lf, sa, wm.
Mimulus floribundus Lindl. (6) B, F, L, T; 2315–2620m; gr, lf, wm.
Mimulus guttatus DC. (42) B, F, G, L, M, P, S, T, W; 1860–3050m; fw, lm, ma, sa, wm, wt.
Mimulus lewisii Pursh (21) B, D, F, M, P, W; 2440–3365m; fw, sa, wm, wt.
Mimulus suksdorfii A. Gray (17) B, F, S; 2225–2745m; bs, dm, gr, sa.
Mimulus washingtonensis Gand. (5) B, D, F, G, P; 2440–2900m; bd, gr, lm, wm; (*M. patulus*).

Plantaginaceae (Callitrichaceae, Hippuridaceae, Scrophulariaceae)

- Besseyia wyomingensis* (A. Nelson) Rydb. (49) B, D, F, G, L, M, P, T, W; 1850–3840m; at, bs, dm, gr, lm, lw, wm.
Callitriche hermaphroditica L. (4) F, M, W; 2440–3460m; aq.
 # *Callitriche heterophylla* Pursh (1) B; 2745m; aq.
Callitriche palustris L. (29) B, D, F, G, L, M, P, S, W; 1960–3160m; aq, ma, sa, wm; wt.
Collinsia parviflora Lindl. (89) B, D, F, G, L, M, P, S, T, W; 1850–3295m; af, bs, df, dm, ds, gr, lf, sf, wf, wm, wt.
Hippuris vulgaris L. (6) D, F, G, M, P; 2470–2970m; aq, ma, sa.
Limosella aquatica L. (4) B, F, M, S; 2225–2440m; aq, ma.
 *● *Linaria dalmatica* (L.) Mill. var. *dalmatica* (1) L; 1765–1880m; bs.
 *● *Linaria vulgaris* Mill. (2) F, L; 2440m; ds.
 # *Penstemon arenicola* A. Nelson (1) F; 2375m; bs.
Penstemon attenuatus Dougl. ex Lindl. var. *pseudoprocerus* (Rydb.) Cronq. (21) D, F, G, M, W; 2375–3535m; at, dm, gr, lm, sf.
Penstemon deustus Dougl. ex Lindl. var. *deustus* (3) B, F; 2315–2620m; gr, lf, sf.
Penstemon eriantherus Pursh var. *cleburnei* (Jones) Dorn (10) L, T; 1725–2905m; bs, dm, jw.
Penstemon eriantherus Pursh var. *eriantherus* (6) L, T, W; 1860–3110m; bs, sa, sf.

- Penstemon glaber* Pursh var. *glaber* (4) L; 1790–1975m; jw.
Penstemon humilis Nutt. ex A. Gray var. *humilis* (41) B, F, L, P, S, T; 1765–3180m; bs, df, dm, ds, gr, jw, lf.
Penstemon laricifolius Hook. & Arn. var. *laricifolius* (7) L, T; 1725–2635m; bs, jw, lm.
Penstemon montanus Greene var. *montanus* (8) F, G, M; 2865–3535m; at, dm, gr, lm.
 ◆ *Penstemon paysoniorum* Keck (3) L; 1960–1975m; jw.
Penstemon procerus Douglas ex Graham var. *procerus* (108) B, D, F, G, L, M, P, S, T, W; 2260–3795m; af, at, bs, dm, ds, fw, gr, lf, lm, ma, rs, wf, wm.
Penstemon radicosus A. Nelson (29) B, F, G, L, P, S, T; 1850–2905m; bs, dm.
Penstemon strictus Benth. (20) B, F, L, P; 2160–2900m; bs, dm, ds, lf, sa, sf, wm.
Penstemon subglaber Rydb. (16) F, G, M, T, W; 2285–3050m; af, df, dm, ds, lf, lw, sf, wm, wt.
Penstemon whippleanus A. Gray (23) D, F, G, M, P, T, W; 2500–3520m; af, at, bs, dm, fw, gr, lm, wm.
Plantago eriopoda Torr. (2) F, W; 2440–2690m; ds.
 * *Plantago major* L. (3) M, W; 2345–2470m; dm, ds, fw.
Plantago patagonica Jacq. (2) L; 1725–1990m; bs.
Plantago tweedyi A. Gray (11) D, F, M, S, W; 2375–2955m; bs, dm, ds, fw, wm, wt.
Veronica americana Schwein. ex Benth. (36) B, D, F, G, L, M, P, S, W; 2065–3085m; af, aq, fw, ma, sa, wm, wt.
 * *Veronica anagallis-aquatica* L. (1) L; 2065–2175m; fw.
 * *Veronica biloba* L. (14) B, F, L, M, S; 2210–2745m; af, bs, ds, wm.
Veronica peregrina L. var. *xalapensis* (Kunth) H. St. John & F.W. Warren (15) B, F, L, M, T; 1860–2895m; bs, dm, ds, gr, lf, sa, sf, wm, wt.
Veronica scutellata L. (3) F, G; 2440–2715m; af, ma, wt.
Veronica serpyllifolia L. var. *humifusa* (Dicks.) Vahl (65) B, D, F, L, M, P, S, W; 2255–3830m; af, dm, fw, lf, ma, sa, sf, wm, wt.
Veronica wormskjoldii Roem. & Schult. (94) B, D, F, G, L, M, P, T, W; 2375–3965m; at, dm, fw, gr, lf, ma, wm, wt.
- Poaceae**
- Achnatherum contractum* (B.L. Johnson) Barkworth (2) M, S; 2315–2520m; bs, sa; (*Oryzopsis contracta*).
Achnatherum hymenoides (Roem. & Schult.) Barkworth (24) B, F, G, L, M, S, T; 1725–2745m; bd, bs, gr, jw, lm, lw; (*Oryzopsis hymenoides*).
Achnatherum lettermanii (Vasey) Barkworth (24) B, D, F, L, M, P, T, W; 2210–3420m; at, bs, dm, fw, gr; (*Stipa lettermanii*).
Achnatherum nelsonii (Scribn.) Barkworth ssp. *dorei* (Barkworth & J. Maze) Barkworth (46) B, D, F, G, L, M, T, W; 2255–3240m; af, bs, df, dm, ds, fw, gr, lm, sa, sf, wf, wm, wt; (*Stipa nelsonii* var. *dorei*).
Achnatherum nelsonii (Scribn.) Barkworth ssp. *nelsonii* (16) B, D, F, L, P, W; 1765–3230m; bs, dm, lf, sf; (*Stipa nelsonii* var. *nelsonii*).
Achnatherum occidentale (Thurb.) Barkworth (2) B, W; 2380–2680m; bs; (*Stipa occidentalis*).
 # *Achnatherum pinetorum* (Jones) Barkw. (2) B, P; 2440m; dm; (*Stipa pinetorum*).
Achnatherum richardsonii (Link) Barkworth (11) F, G, M, T; 2315–2680m; bs, fw, lm, wt; (*Stipa richardsonii*).
 * *Agropyron cristatum* (L.) Gaertn. var. *cristatum* (4) B, F, S; 2255–2375m; bs, ds.
 * *Agropyron cristatum* (L.) Gaertn. var. *desertorum* (Fisch. ex Link) Dorn (3) F, L, S; 2265–2375m; bs.
 * *Agropyron cristatum* (L.) Gaertn. var. *fragile* (Roth) Dorn (1) S; 2315–2345m; bs.
Agrostis exarata Trin. (20) B, F, M, P, W; 2315–2950m; bs, fw, ma, sa, wt.
Agrostis idahoensis Nash (6) B, D, P, W; 2680–2885m; fw, wm.
 ◆ *Agrostis mertensii* Trin. (1) D; 2975–3270m; wt.
Agrostis scabra Willd. (83) B, D, F, G, L, M, P, S, T, W; 2175–3720m; af, at, bs, df, dm, ds, fw, gr, lf, sa, sf, wf, wm, wt.
 * *Agrostis stolonifera* L. (14) B, F, L, M, S, W; 2195–2745m; bs, dm, fw, ma, sa, wm, wt.
Agrostis variabilis Rydb. (26) B, D, F, G, P, W; 2785–3790m; at, dm, gr, lm, ma, sf, wf, wm, wt.
Alopecurus aequalis Sobol. var. *aequalis* (39) B, D, F, G, L, M, P, S, T, W; 2225–3460m; af, aq, df, dm, fw, ma, sa, wm, wt.
 * *Alopecurus arundinaceus* Poir. (3) L; 1725–2670m; wm.
Alopecurus magellanicus Lam. (6) D, F, P, W; 2645–3210m; dm, fw, wm; (*A. alpinus*, *A. borealis*).
 * *Alopecurus pratensis* L. (20) B, F, M, P, S, W; 2255–2970m; af, bs, dm, ds, lf, ma, sa, wm, wt.
Anthoxanthum hirtum (Schrank) Schouten & Veldkamp (25) B, D, F, G, L, M, P, S, T; 2315–3185m; fw, rs, wm, wt; (*Hierochloa odorata*).
 * *Arrhenatherum elatius* (L.) J. & K. Presl (1) L; 1890m; wt.
Beckmannia syzigachne (Steud.) Fernald (7) B, F, G, T, W; 2255–2795m; dm, wt.
Bromus carinatus Hook. & Arn. (37) B, D, F, L, M, P, T, W; 1860–3115m; af, bs, dm, ds, gr, lf, sa, wm, wt.
Bromus ciliatus L. (44) B, D, F, G, L, M, P, S, W; 1860–3365m; af, dm, fw, lf, ma, sf, wm, wt.
 * *Bromus commutatus* Schrad. (4) F, L; 1960–2285m; ds, jw.
 * *Bromus inermis* Leyss. (44) B, D, F, L, M, T, W; 1790–3210m; bs, dm, ds, jw, wm; (var. *inermis*).
 * *Bromus japonicus* Thunb. ex Murray (1) F; 2255–2315m; bs.
Bromus porteri (J.M. Coult.) Nash (33) B, D, F, G, L, M, P, T, W; 2175–3160m; af, bs, df, dm, ds, fw, lw, sa, wm, wt; (*B. anomalus*).
Bromus pumpellianus Scribn. (6) F, G, T, W; 2635–3415m; at, dm, wt; (*B. inermis* var. *purpurascens*).
 * *Bromus secalinus* L. (1) L; 1960–1990m; jw.
 * *Bromus tectorum* L. (34) B, F, L, P, S, T; 1725–2865m; af, bs, dm, ds, gr, jw, lm, wt.
Calamagrostis canadensis (Michx.) P. Beauv. var. *canadensis* (68) B, D, F, G, L, M, P, T, W; 1960–3720m; af, bs, fw, gr, lf, ma, rs, sa, sf, wm, wt.
Calamagrostis inexpansa A. Gray (7) D, G, M, P, S; 2285–3420m; bs, dm, ma, wm.
Calamagrostis montanensis Scribn. ex Vasey (2) B, D; 3230–3325m; wf.
Calamagrostis purpurascens R. Br. var. *purpurascens* (28) B, D, F, G, P, T; 2850–4410m; at, dm, fw, gr, lm.
Calamagrostis rubescens Buckley (1) W; 2530–2565m; sf.
Calamagrostis scopulorum Jones (1) W; 2745m; ma.
Calamagrostis stricta (Timm) Koeler (16) B, D, F, M, P, S, W; 2345–4025m; dm, fw, ma, sa, wm.
Catabrosa aquatica (L.) Beauv. (5) F, L; 2260–2620m; af, wm, wt.
 * *Dactylis glomerata* L. (16) B, F, L, M, P, S, W; 1790–3050m; bs, dm, ds, jw, sf, wm.
Danthonia intermedia Vasey (58) B, D, F, G, M, P, S, T, W; 2315–3840m; af, at, bs, dm, gr, lf, lm, ma, sf, wf, wm, wt.
Danthonia unispicata (Thurb.) Munro ex Macoun (17) B, F, L, M, P, T; 1725–2990m; af, bs, dm, ds, jw, lf.
Deschampsia cespitosa (L.) P. Beauv. var. *cespitosa* (153) B, D, F, G, L, M, P, S, T, W; 2225–3815m; at, bs, dm, fw, gr, lf, ma, sa, wm, wt.
Deschampsia elongata (Hook.) Munro (1) W; 2680m; sf.
Distichlis spicata (L.) Greene (1) L; 1720–1915m; rs; (*D. stricta*).
Elymus albicans (Scribn. & J.G. Sm.) Á. Löve (11) F, G, L, T; 1960–2745m; bs, df, dm, jw; (var. *griffithsii*).
Elymus canadensis L. var. *canadensis* (2) L, M; 1890–2440m; dm, wm.
Elymus cinereus Scribn. & Merr. (14) F, L, M, P, S, T; 1860–3155m; bs, ds, lf, sa.
 * *Elymus elongatus* (Host) Runemark var. *ponticus* (Podp.) Dorn (1) F; 2285m; ds.

- Elymus elymoides* (Raf.) Swezey var. *brevifolius* (J. G. Sm.) Dorn (23) B, D, F, G, L, P, T, W; 2175–3240m; bs, dm, fw, gr, sa, wm, wt.
- Elymus elymoides* (Raf.) Swezey var. *elymoides* (51) B, D, F, G, L, M, P, S, T, W; 2285–3415m; af, at, bd, bs, dm, ds, gr, lf, lm, sa, sf, wf, wt.
- Elymus glaucus* Buckley var. *glaucus* (19) B, D, F, G, L, P, W; 1860–3330m; bs, dm, fw, gr, lf, rs, sa, sf.
- * *Elymus hispidus* (Opiz) Melderis var. *hispidus* (2) F, P; 2440–2575m; ds, lf.
- * *Elymus hispidus* (Opiz) Melderis var. *ruthenicus* (Griseb.) Dorn (1) F; 2375m; ds.
- * *Elymus junceus* Fisch. (1) S; 2315–2345m; ds.
- Elymus lanceolatus* (Scribn. & J.G. Sm.) Gould var. *lanceolatus* (10) B, L, M, S, T, W; 1765–3655m; at, bd, bs, dm, gr, jw, sf.
- Elymus lanceolatus* (Scribn. & J.G. Sm.) Gould var. *riparius* (Scribn. & J.G. Sm.) Dorn (5) P, W; 2605–3795m; at, bs, dm, fw.
- * *Elymus repens* (L.) Gould (5) B, F, P; 2375–2800m; sa, wm.
- Elymus scribneri* (Vasey) M.E. Jones (54) B, D, F, G, L, M, P, T, W; 2730–4110m; at, dm, gr, lm, sf, wf, wm.
- Elymus smithii* (Rydb.) Gould (3) D, F; 2440–2995m; dm, ds.
- Elymus spicatus* (Pursh) Gould (51) B, F, G, L, M, P, S, T; 1725–3455m; bd, bs, df, dm, ds, gr, jw, lm, lw, sa, wm; (includes hybrids with *E. elymoides* [*E. saxicolus*]).
- Elymus trachycaulus* (Link) Gould ex Shinnars var. *trachycaulus* (130) B, D, F, G, L, M, P, S, T, W; 1860–3790m; af, at, bs, df, dm, ds, fw, gr, lf, lm, ma, rs, sa, sf, wf, wm, wt; (includes hybrids with *E. elymoides* [*E. saundersii*], var. *andinus*).
- Festuca baffinensis* Polunin (7) D, G, P, T; 3150–3700m; at, dm.
- Festuca brachyphylla* Schult. ex Schult. & Schult. f. var. *coloradensis* (Fred.) Dorn (73) B, D, F, G, M, P, T, W; 2800–4110m; at, dm, gr, lm, sf, wm.
- Festuca idahoensis* Elmer (89) B, D, F, G, L, M, P, S, T, W; 1725–3625m; af, bs, df, dm, ds, gr, jw, lf, lw, sa, sf, wt.
- Festuca minutiflora* Rydb. (6) D, P, T; 2635–3830m, at, dm, gr.
- Festuca rubra* L. ssp. *rubra* (6) G, P, T, W; 2555–3210m; bs, dm.
- Festuca saximontana* Rydb. var. *saximontana* (40) B, D, F, L, M, P, S, T, W; 2160–3655m; at, bs, dm, ds, fw, gr, lf, sa, sf, wf, wm, wt.
- ◆ *Festuca viviparoides* Krajina ex Pavlick ssp. *krajinae* Pavlick (4) D, G; 3415–3530m; at.
- Glyceria borealis* (Nash) Batch (10) B, F, P; 2255–2865m; af, aq, dm, wm.
- Glyceria elata* (Nash ex Rydb.) M.E. Jones (2) P, T; 2255–2615m; aq, fw.
- Glyceria grandis* S. Watson var. *grandis* (9) B, D, F, L, P, W; 2375–2985m; aq, fw, wt.
- Glyceria striata* (Lam.) Hitchc. var. *stricta* (Scribn.) Henr. (20) B, D, F, G, L, P, W; 1860–2860m; aq, fw, ma, wm, wt.
- ◆ *Helictotrichon mortonianum* (Scribn.) Henr. (2) T; 3230–3535m; dm.
- Hesperostipa comata* (Trin. & Rupr.) Barkworth var. *comata* (13) L, P, T, W; 1765–2520m; bs, ds, jw; (*Stipa comata* var. *comata*).
- Hesperostipa comata* (Trin. & Rupr.) Barkworth var. *intermedia* (Scribn. & Tweedy) Dorn (12) B, F, M, S; 2315–2800m; af, bs, dm; (*Stipa comata* var. *intermedia*; includes hybrids named *S. x bloomeri*).
- Hordeum brachyantherum* Nevski (31) B, D, F, L, M, P, S, T, W; 2315–3155m; bs, dm, ds, fw, sa, wm, wt; (includes hybrid *H. x caespitosum* with *H. jubatum*).
- Hordeum jubatum* L. (15) B, F, T; 2225–2925m; bs, dm, sa; (includes hybrids with *E. trachycaulus* [*Elymus macounii*]).
- Koeleria macrantha* (Ledeb.) Schult. (48) B, F, G, L, M, S, T, W; 1725–2905m; bs, df, dm, ds, jw, lf, lm, lw, ma, sa, sf, wm.
- Leucopoa kingii* (S. Watson) W.A. Weber (90) B, D, F, G, L, M, P, S, T, W; 1790–3700m; at, bd, bs, df, dm, ds, fw, gr, jw, lf, lm, lw, sf, wm.
- Melica bulbosa* Geyer ex Porter & J.M. Coult. (30) B, F, L, P, S, T; 1850–3295m; af, bs, dm, ds, gr.
- Melica spectabilis* Scribn. (15) F, L, M, T, W; 2330–3180m; af, bs, dm, ds, gr, lf, sf, wm.
- Muhlenbergia andina* (Nutt.) Hitchc. (6) F, M, S; 2285–2800m; af, bs, gr, lf.
- Muhlenbergia filiformis* (Thurb. ex Wats.) Rydb. var. *filiformis* (16) B, F, G, M, P, S; 2285–3090m; bs, dm, wm, wt.
- ◆ *Muhlenbergia glomerata* (Willd.) Trin. (1) D; 2985–3000m; fw.
- Muhlenbergia richardsonis* (Trin.) Rydb. (14) B, D, F, G, M, P, S, T; 2255–3000m; bs, ds, lm, wf, wm.
- Nassella viridula* (Trin.) Barkw. (1) T; 2285–2560m; dm; (*Stipa viridula*).
- Phalaris arundinacea* L. (3) B, F, L; 1860–2895m; lf, rs, wm.
- ◆ *Phippsia algida* (Phipps) R. Br. (3) D, F; 3310–3965m; at, gr, wm.
- Phleum alpinum* L. var. *alpinum* (115) B, D, F, G, L, M, P, S, T, W; 2375–3830m; af, at, bs, dm, ds, fw, gr, lf, ma, sa, wm, wt.
- * *Phleum pratense* L. var. *pratense* (32) B, F, G, L, M, P, S, T, W; 1860–3210m; bs, df, dm, ds, rs, sa, wm, wt.
- Piptatherum exiguum* (Thurb.) Dorn (33) B, F, G, L, P, S, W; 2315–3110m; af, bs, df, dm, ds, fw, gr, lf, sf; (*Orzyopsis exigua*).
- Poa abbreviata* R. Br. ssp. *pattersonii* (Vasey) Á. Löve, D. Löve, & B.M. Kapoor (28) B, D, F, G, P, T, W; 2635–3830m; dm, fw, gr, lm, sa, wm; (*P. pattersonii*).
- Poa alpina* L. var. *alpina* (87) B, D, F, G, M, P, T, W; 2315–3900m; at, bs, dm, fw, gr, lm, ma, sa, wm, wt.
- * *Poa annua* L. (16) B, F, M, S; 2255–3050m; af, df, dm, ds, fw, sa, wm, wt.
- Poa arctica* R. Br. ssp. *grayana* (Vasey) Á. Löve, D. Löve, & B.M. Kapoor (24) B, D, F, G, L, P; 2370–3830m; af, at, dm, gr, ma, sa, wf, wm.
- Poa arida* Vasey (9) F, L, P, S, T, W; 1725–2945m; bs, dm, ds.
- * *Poa bulbosa* L. (2) B; 2225–2500m; af, ds.
- Poa cusickii* Vasey var. *cusickii* (60) B, D, F, G, L, M, P, S, T, W; 1725–3755m; at, bd, bs, dm, ds, fw, gr, jw, lf, lm, wm; (ssp. *pallida*).
- Poa cusickii* Vasey var. *epilis* (Scribn.) C.L. Hitchc. (82) B, D, F, M, P, S, T, W; 2555–4110m; at, bs, dm, gr, sf, wf, wm, wt.
- Poa fendleriana* (Steud.) Vasey (81) B, D, F, G, L, M, P, S, T, W; 2175–3625m; af, bs, df, dm, fw, gr, lw, wm, wt.
- Poa glauca* Vahl. var. *rupicola* (Nash ex Rydb.) B. Boivin (50) B, D, F, G, P, T, W; 2290–3765m; at, dm, gr, lm, wm, wt.
- Poa interior* Rydb. (89) B, D, F, G, L, M, P, S, T, W; 2075–3535m; af, at, bd, bs, df, dm, fw, gr, lf, lm, sa, sf, wf, wm, wt.
- Poa leptocoma* Trin. (41) B, D, F, G, L, M, P, T, W; 2340–3695m; af, at, dm, fw, gr, lm, ma, sf, wm, wt.
- Poa lettermanii* Vasey (7) B, D, P; 2605–4025m; at, dm, lm, wm.
- Poa palustris* L. (57) B, D, F, G, L, M, P, S, T; 1860–3120m; af, ds, fw, lf, sa, wm, wt.
- * *Poa pratensis* L. (74) B, D, F, G, L, M, P, S, T, W; 1860–3790m; af, bs, dm, ds, fw, gr, lf, lm, ma, sa, sf, wm, wt.
- Poa reflexa* Vasey & Scribn. (53) B, D, F, G, M, P, T, W; 2470–3670m; af, at, dm, fw, gr, sf, wf, wm, wt.
- Poa secunda* J. Presl ssp. *juncifolia* (Scribn.) Soreng (21) B, D, F, G, L, M, P, S, T, W; 1725–3560m; af, at, bs, dm, ds, jw, lf, lm, sf, wm, wt; (includes *P. nevadensis* & *P. juncifolia*).
- Poa secunda* J. Presl ssp. *secunda* (210) B, D, F, G, L, M, P, S, T, W; 1725–4110m; af, at, bs, df, dm, ds, fw, gr, jw, lf, lm, rs, sa, sf, wf, wm, wt; (includes *P. gracillima* & vars. *incurva* and *elongata*).
- * *Poa trivialis* L. (4) D, F, T; 2285–3110m; bs, dm.
- Poa wheeleri* Vasey (164) B, D, F, G, L, M, P, S, T, W; 1850–3655m; af, at, bs, df, dm, ds, fw, gr, lf, lm, sf, wf, wm; (*P. nervosa*).
- Podagrostis humilis* (Vasey) Björkman (38) B, D, F, P, T; 2575–3720m; at, fw, gr, ma, sa, wf, wm, wt; (*Agrostis humilis*, *A. thurberiana*).
- * *Puccinellia distans* (L.) Parl. (1) F, 2305m, wm.
- * *Schedonorus pratensis* (Huds.) P. Beauv. (3) G, L, W; 2440–2565m; dm, sa; (*Festuca pratensis*).
- # *Schizachne purpurascens* (Torr.) Swall. (1) G; 2440m; dm.
- Torreyochloa pallida* (Torr.) G.L. Church var. *pauciflora* (J. Presl) J.I. Davis (9) B, F, P, S; 2375–3080m; fw, lf, wm, wt.
- Trisetum spicatum* (L.) K. Richt. (177) B, D, F, G, L, M, P, T, W; 2210–4110m; af, at, bs, dm, fw, gr, lf, lm, ma, sa, sf, wf, wm.

Trisetum wolfii Vasey (17) B, D, F, L, M, P, W; 2255–3240m; bs, dm, fw, gr, sa, sf, wm, wt.

* *Triticum aestivum* L. (2) F; 2255–2375m; ds, sa.

Vahlodea atropurpurea (Wahl.) Fr. ex RH (11) D, F; 2680–3420m; dm, fw, gr, wm, wt; (*Deschampsia atropurpurea*).

Vulpia octoflora (Walt.) Rydb. (2) B, L; 1860–2410m; bs, jw.

Polemoniaceae

Collomia linearis Nutt. (84) B, D, F, G, L, M, P, S, T, W; 2065–3295m; af, bs, df, dm, ds, fw, gr, lf, sf, wm.

Collomia tenella A. Gray (1) L; 2255–2285m; bs.

Gymnosteris parvula Heller (26) B, F, M, P, S; 2255–2940m; bs, dm, gr.

Ipomopsis aggregata (Pursh) V.E. Grant ssp. *aggregata* (21) B, L, P, W; 1860–2900m; af, bs, dm, ds, jw, lf, lm, lw.

Ipomopsis aggregata (Pursh) V.E. Grant ssp. *attenuata* (A. Gray) V.E. Grant & A.D. Grant (31) B, F, G, M, S; 2285–3110m; af, bs, dm, ds, fw, lm, ma, wt.

◆ *Ipomopsis crebrifolia* (Nutt.) Dorn (2) M, S; 2375–2590m; bs.

Ipomopsis spicata (Nutt.) V.E. Grant var. *orchidacea* (Brand) Dorn (2) T; 2285–3230m; dm, ds.

Ipomopsis spicata (Nutt.) V.E. Grant var. *spicata* (21) L, S, T; 1725–3525; bs, df, dm, gr, lw.

Lathrocasis tenerrima (A. Gray) Johnson (17) B, F, P, S; 2255–2750m; af, bs, dm, fw, gr; (*Gilia tenerrima*).

Leptosiphon nuttallii (A. Gray) Porter & Johnson (4) B; 2560–2745m; af, bs; (*Linanthus nuttallii*).

Leptosiphon septentrionalis (H. Mason) J.M. Porter & L.A. Johnson (39) B, D, F, G, M, S, W; 2255–2895m; af, bs, dm, ds, fw, gr, sa; (*Linanthus septentrionalis*).

Linanthus pungens (Torr.) J.M. Porter & L.A. Johnson (20) B, F, L, M, S, T; 1725–2760m; bs, dm, fw, jw; (*Leptodactylon pungens*).

Microsteris gracilis (Hook.) Greene var. *gracilis* (1) L; 1860m; jw.

Microsteris gracilis (Hook.) Greene var. *humilior* (Hook.) Cronquist (9) B, F, L; 2260–2835m; af, bs, ds, gr.

Navarretia breweri (A. Gray) Greene (1) S; 2225–2255m; bs.

Navarretia saximontana Spencer (2) B, F; 2285–2310m; bs, sa; (*N. intertexta* var. *propinqua*).

Phlox andicola E. Nels. (11) L, S; 1860–2640m; bs, dm, lw.

Phlox hoodii Richardson (54) B, F, G, L, M, P, S, T; 1725–3170m; bs, dm, ds, gr, lm, lw.

Phlox longifolia Nutt. var. *longifolia* (30) B, F, L, S; 2065–2590m; af, bs, dm.

Phlox multiflora A. Nelson (128) B, D, F, G, L, M, P, S, T, W; 1850–3420m; af, at, bd, bs, df, dm, ds, fw, gr, jw, lf, sf, wf, wm.

Phlox muscoides Nutt. (1) T; 2255–2410m; bs.

Phlox pulvinata (Wherry) Cronquist (30) B, D, F, P, T; 2665–3790m; at, dm, gr.

◆ *Phlox pungens* Dorn (6) L; 1765–2605m; bs, lm; WY BLM Sensitive.

Polemonium occidentale Greene var. *occidentale* (14) B, F, G, W; 2375–2865m; fw, ma, wm, wt.

Polemonium viscosum Nutt. (70) B, D, F, G, P, T, W; 2665–3965m; at, bs, dm, gr, lm, wm.

Polygonaceae

Bistorta bistortoides (Pursh) Small (148) B, D, F, G, L, M, P, S, T, W; 2160–4055m; af, at, bs, dm, ds, fw, gr, lf, rs, sa, sf, wm, wt; (*Polygonum bistortoides*).

Bistorta vivipara (L.) Delarbre (65) B, D, F, G, M, P, T, W; 2290–4025m; at, dm, fw, gr, ma, sa, wm, wt; (*Polygonum viviparum*).

Eriogonum acaule Nutt. (1) S; 2370m; bs (BM).

Eriogonum brevicaule Nutt. var. *brevicaule* (2) T; 2285–2500m; dm.

Eriogonum brevicaule Nutt. var. *laxifolium* (T. & G.) Reveal (14) F, G, M; 2285–3415m; bd, bs, dm, lm, lw; (var. *bannockense*).

Eriogonum brevicaule Nutt. var. *micranthum* (Nutt.) Reveal (1) T; 2255m; bs.

Eriogonum caespitosum Nutt. (21) B, F, P, S; 2285–2610m; bs, dm, gr.

Eriogonum cernuum Nutt. (4) B, M, S; 2225–2410m; bd, bs, ds.

Eriogonum flavum Nutt. var. *flavum* (15) L, T; 1725–3155m; bs, dm, jw.

Eriogonum microthecum Nutt. var. *laxiflorum* Hook. (1) F; 2225m; bs.

Eriogonum ovalifolium Nutt. var. *ochroleucum* (Small ex Rydb.) Peck (10) L, T; 1725–3155m; bs, dm, ds, jw.

Eriogonum ovalifolium Nutt. var. *ovalifolium* (12) D, F, L, P, S, T; 2315–3170m; bs, dm, gr.

Eriogonum ovalifolium Nutt. var. *purpureum* (Nutt.) T. Durand (44) B, D, F, G, L, M, P, S, T, W; 2285–3720m; at, bs, dm, gr, lm.

Eriogonum umbellatum Torr. var. *majus* Hook. (151) B, D, F, G, L, M, P, S, T, W; 1790–3720m; af, at, bs, dm, ds, gr, jw, lf, lm, lw, sf, wf, wm.

Eriogonum umbellatum Torr. var. *umbellatum* (2) D; 2285–2880m; bs, sa.

◆ *Koenigia islandica* L. (2) D; 3310–3810m; at, wm.

Oxyria digyna (L.) Hill (80) B, D, F, G, M, P, T, W; 2440–4055m; at, dm, fw, gr, lm, sa, sf.

Persicaria amphibia (L.) Gray (5) B, F, G, P; 2255–2680m; aq; (*Polygonum amphibia*).

* *Persicaria maculosa* A. Gray (1) P; 2795–2850m; wm; (*Polygonum persicaria*).

Polygonum achoreum Blake (8) B, M; 2255–2800m; bs, ds, lf.

* *Polygonum aviculare* L. (39) B, F, L, M, P, S, T; 2225–2895m; bs, dm, ds, lf, rs, sa, wm.

Polygonum douglasii Greene (73) B, D, F, G, M, P, W; 2255–3170m; af, bs, dm, ds, fw, gr, lf, sa, sf, wm, wt; (includes vars. *austinae*, *douglasii*, & *microspermum*, *P. engelmannii*).

Polygonum minimum Wats. (9) B, D, F; 2440–3240m; af, dm, lf, sa, sf, wf, wm.

Polygonum polygaloides Meisn. ssp. *confertiflorum* (Nutt. ex Piper) J.C. Hickman (17) B, D, F, P, W; 2680–3050m; af, dm, ds, gr, lf, sa, sf, wm; (*P. kelloggii* var. *confertiflorum*, *P. watsonii*).

Polygonum polygaloides Meisn. ssp. *kelloggii* (Greene) J.C. Hickman (17) B, D, F, M, P; 2440–3170m; bs, dm, ds, fw, gr, sa, wm; (*P. kelloggii* var. *kelloggii*).

Polygonum sawatchense Small ssp. *sawatchense* (5) F, G, L, M; 1860–3050m; bs, dm, jw, rs.

* *Rumex acetosella* L. (4) B, F; 2255–2925m; bs, ds, lf, sa, sf.

* *Rumex crispus* L. (11) B, F, G, L; 1725–2860m; dm, ds, fw, rs, sa.

Rumex fueginus Phil. (2) B, F; 2135–2745m; lf, wm; (*R. maritimus* var. *fueginus*).

Rumex occidentalis S. Watson (4) F, G, T; 2255–2470m; bs, wm, wt; (*R. aquaticus* var. *fenestratus*).

Rumex paucifolius Nutt. (104) B, D, F, G, L, M, P, S, T, W; 2160–3795m; af, at, bs, dm, ds, fw, gr, rs, sa, sf, wm, wt.

Rumex triangulivalvis (Danser) Rech. f. (30) B, D, F, M, P, S, T, W; 2225–2800m; af, bs, dm, ds, lf, ma, sa, wm, wt; (*R. salicifolus* var. *triangulivalvis*).

Rumex utahensis Rech. f. (5) B, F, L, P; 1860–2970m; dm, lf, rs, sa, wm.

Portulacaceae (Montiaceae)

Cistanthe rosea (Wats.) Hershkovitz (5) F, S; 2285–2440m; bs.

Cistanthe umbellata (Torr.) Hershkovitz var. *caudicifera* (A. Gray) Kartesz & Gandhi (2) F, M; 2745–3325m; at, wm.

Claytonia lanceolata Pursh (48) B, D, F, L, M, P, S, T, W; 2375–3720m; af, at, bs, dm, ds, fw, gr, lf, wm, wt.

Claytonia megarhiza (A. Gray) Parry ex S. Watson (25) B, D, F, P, T; 2980–4055m; at, dm, gr.

Claytonia multiscapa Rydb. (10) D, P, W; 2880–3500m; dm, gr, sf, wm, wt.

Lewisia pygmaea (A. Gray) B.L. Robins. (88) B, D, F, G, L, M, P, S, T, W; 2345–4025m; af, at, bs, dm, gr, lf, lm, sa, sf, wf, wm, wt.

Lewisia rediviva Pursh var. *rediviva* (25) B, F, L, P, S, T; 1725–2955m; bs, df, dm, ds, jw.

Lewisia triphylla (S. Watson) B.L. Robins. (6) B, F, P; 2440–3170m; af, dm, gr, lf, wf.

Montia chamissoi (Ledeb. ex Spreng.) Greene (8) F, M, W; 2375–2775m; aq, ma, sa, wm.

Potamogetonaceae (Zannichelliaceae)

Potamogeton alpinus Balb (8) B, D, M, P, S; 2375–3175m; aq.

◆ *Potamogeton amplifolius* Tuckerm. (3) F; 2375–2410m; aq.

Potamogeton epihydrus Raf. (2) P; 2520–2745m; aq.

Potamogeton foliosus Raf. (2) G, S; 2375m; aq.

◆ *Potamogeton friesii* Rupr. (1) F; 2680–2715m; aq.

Potamogeton gramineus L. (10) B, F, G, M, P, T; 2410–2895m; aq.

◆ *Potamogeton illinoensis* Morong (1) G; 2440m; aq.

Potamogeton natans L. (1) B; 2865–2925m; aq.

Potamogeton pusillus L. var. *pusillus* (3) B, F, M; 2375–2470m; aq.

Potamogeton pusillus L. var. *tenuissimus* Mert. & W.D.J. Koch (2) G; 2450–2745m; aq.

Potamogeton richardsonii (A. Benn.) Rydb. (7) B, F, G, M; 2315–2745m; aq.

◆ *Potamogeton robbinsii* Oakes (3) B, F, T; 2255–2745m; aq.

◆ *Potamogeton strictifolius* Bennett; (2) F, G; 2440m; aq.

Stuckenia filiformis (Pers.) Börner ssp. *alpina* (Blytt) Hayes, Les, & Král (6) D, F; 2375–3175m; aq.

Zannichellia palustris L. (1) F; 2375m; aq.

Primulaceae

◆ *Androsace chamaejasme* Wulf. var. *carinata* (Torr.) Knuth (13) D, T; 2635–3525m; at, dm, wm; USFS R2 & R4 Sensitive.

Androsace filiformis Retz. (12) B, L, M, P, S; 2210–2925m; fw, sa, wm, wt.

Androsace septentrionalis L. (120) B, D, F, G, L, M, P, S, T, W; 2160–3965m; af, at, bs, df, dm, gr, lf, lw, sf, wm, wt.

Douglasia montana A. Gray (10) B, D, F, G, P, T; 2470–3830m; at, dm, gr.

Primula conjugens (Greene) Mast & Reveal var. *conjugens* (38) B, F, L, M, P, S, T, W; 1790–3525m; af, bs, df, dm, ds, jw, lw, wm; (*Dodecatheon conjugens*).

◆ *Primula egaliksensis* Wormskj. ex Hornem. (2) G; 2440m; ma.

Primula parryi A. Gray (51) B, D, F, G, P, T; 2620–4025m; at, dm, fw, gr, wm.

Primula pauciflora (Greene) Mast & Reveal var. *pauciflora* (71) B, D, F, G, L, M, P, S, T, W; 2285–4025m; af, at, bs, dm, fw, gr, lf, ma, wm, wt; (*Dodecatheon pulchellum*).

Ranunculaceae

Aconitum columbianum Nutt. ssp. *columbianum* (1) M; 2440–2500m; dm.

Actaea rubra (Aiton) Willd. (36) B, F, G, L, M, P, T, W; 1860–3170m; af, df, fw, gr, lf, rs, sf, wm, wt.

Anemone lithophila Rydb. (4) G; 3230–3535m; at.

Anemone multifida Poir. var. *multifida* (41) F, G, L, M, T, W; 2285–3180m; bd, bs, dm, fw, gr, lf, lm, lw, ma, sf, wm, wt.

Anemone parviflora Michx. (4) F, G; 2375–3415m; sa, wm.

Anemone patens L. var. *multifida* Pritz. (28) D, F, G, L, P, T; 2280–4110m; at, bs, dm, gr, wm, wt.

Anemone tetonensis Porter ex Britt. (9) G, T, W; 2620–3415m; at, dm, lm.

Aquilegia coerulea E. James var. *coerulea* (87) B, D, F, G, L, M, P, T, W; 2325–3840m; af, at, bs, dm, fw, gr, lf, lm, sa, sf, wf, wm, wt.

Aquilegia flavescens Wats. (17) D, L, P, W; 2575–3830m; at, dm, fw, gr.

Aquilegia jonesii Parry (9) L, T; 2490–3525m; at, dm, lm.

Caltha leptosepala DC. (72) B, D, F, M, P, W; 2555–3840m; at, dm, fw, lf, ma, sa, wm, wt.

Clematis hirsutissima Pursh var. *hirsutissima* (13) F, L, S, T; 2210–2905m; af, bs, dm, ds, lf.

Clematis ligusticifolia Nutt. (2) L; 1725–1910m; bs, rs.

Clematis occidentalis (Hornem.) DC. var. *grosseserrata* (Rydb.) J.S. Pringle (5) B, G; 2255–2745m; af, df, sf, wm.

Delphinium bicolor Nutt. (43) B, F, L, M, P, S; 2285–3170m; af, bs, dm, ds, fw, lf, lw.

Delphinium geyeri Greene (5) F, L; 1765–2375m; bs, jw.

Delphinium glaucum S. Watson (27) B, F, G, L, M, T, W; 2330–3155m; bs, dm, sf, wm, wt; (includes *D. occidentale*).

Delphinium nuttallianum Pritz. ex Walpers (42) D, F, L, P, S, T, W; 1850–2905m; af, bs, dm, gr, jw, wm.

Myosurus apetalus Gay var. *borealis* Whittem. (2) F, P; 2725–2940m; dm, wm.

Myosurus apetalus Gay var. *montanus* (Campbell) Whittem. (3) B, S; 2410–2745m; aq, bs, wm.

Myosurus minimus L. (2) F, G, M; 2440–2530m; af, bs.

Ranunculus acrifolius A. Gray var. *montanensis* (Rydb.) Benson (12) D, F, M, T, W; 2375–2905m; af, bs, lf, ma, wm, wt.

Ranunculus adoneus A. Gray (8) B, D, F, G, T, W; 2635–3720m; at, dm.

Ranunculus alismifolius Geyer ex Benth. var. *hartwegii* (Greene) Jeps. (15) B, F, P, T, W; 2560–3230m; af, bs, lf, lm, ma, wm, wt.

Ranunculus alismifolius Geyer ex Benth. var. *montanus* S. Watson (18) B, F, M, P, W; 2375–3170m; af, bs, ds, fw, wm, wt.

Ranunculus aquatilis L. var. *diffusus* With. (17) B, D, F, G, M, P, T; 2225–3345m; aq; (includes *R. circinatus*).

Ranunculus cymbalaria Pursh (18) D, F, L, M, P, S, T, W; 1725–3120m; af, aq, ma, wm, wt; (includes vars. *cymbalaria* & *saximontanus*).

Ranunculus eschscholtzii Schltld. var. *eschscholtzii* (65) B, D, F, L, M, P; 2520–3840m; at, dm, fw, gr, lf, ma, sf, wm, wt.

Ranunculus eschscholtzii Schltld. var. *eximius* (Greene) Benson (3) D, P; 3090–3790m; at, wm.

Ranunculus eschscholtzii Schltld. var. *trisectus* (Eastw.) Benson (11) F, G, M, T; 2435–3535m; at, dm, fw, gr, lm, wm.

Ranunculus flammula L. var. *reptans* (L.) E. Mey. (28) B, D, F, G, P; 2225–3160m; aq, ma, sa, wm, wt.

Ranunculus glaberrimus Hook. var. *ellipticus* (Greene) Greene (58) B, F, G, L, M, P, S, W; 2150–3655m; af, at, bs, df, dm, gr, wm, wt.

Ranunculus gmelinii DC. (5) F, G, M, W; 2470–2800m; aq, wm.

Ranunculus hyperboreus Rottb. (4) B, F, M; 2285–2560m; aq, ma, wt; (*R. natans*).

Ranunculus inamoenus Greene var. *inamoenus* (30) D, F, G, M, W; 2375–3505m; af, at, bs, dm, ds, fw, wm, wt; (includes var. *alpeophilus*).

Ranunculus jovis A. Nels. (3) B, F; 2375–2955m; bs, dm, wm.

Ranunculus macounii Britton (10) B, F, G, L, W; 2210–2500m; af, df, sa, wm.

Ranunculus pedatifidus Sm. var. *affinis* (R. Br.) L.D. Benson (2) T; 2665–3525m; dm.

Ranunculus pygmaeus Wahlenb. (9) B, D, F, G, P, W; 2865–4025m; at, dm, gr, wm.

* *Ranunculus repens* L. var. *repens* (1) F; 2375m; wm.

Ranunculus sceleratus L. var. *multifidus* Nutt. (5) F, G; 2315–2500m; ma, wm.

* *Ranunculus testiculatus* Crantz (5) B, L; 1725–2330m; ds; (*Ceratocephala testiculata*).

Ranunculus uncinatus D. Don (15) B, F, M, P, W; 2375–2900m; dm, fw, sf, wm, wt.

Thalictrum alpinum L. (11) F, G, P, T; 2440–3185m; ma, wm, wt.

Thalictrum fendleri Engelm. ex A. Gray (13) F, G, L, M; 1860–3110m; af, dm, fw, rs, sff, wm, wt.

Thalictrum occidentale A. Gray (13) B, F, G, L, M; 2160–3050m; af, dm, lf, sf, wm, wt.

Thalictrum sparsiflorum Turcz. ex Fisch. & C.A. Mey. (37) B, D, F, G, P, S, T, W; 2175–3285m; af, fw, lm, ma, sa, wm, wt.

Thalictrum venulosum Trel. (2) B, F; 2375m; sa, wt.

Trollius albiflorus (A. Gray) Rydb. (69) B, D, F, L, M, P, T, W; 2440–3520m; af, at, dm, fw, gr, lf, ma, sf, wm, wt; (*T. laxus* var. *albiflorus*).

Rhamnaceae

Ceanothus velutinus Douglas ex Hook. var. *velutinus* (26) B, F, L, P, S, W; 2175–3170m; af, bs, df, dm, ds, gr, lf, sf.

Rosaceae

Amelanchier alnifolia (Nutt.) Nutt. ex M. Roem. var. *alnifolia* (21) B, F, L, P; 2160–2745m; af, bs, df, dm, gr, jw, lf, sa.

Amelanchier alnifolia (Nutt.) Nutt. ex M. Roem. var. *pumila* (Torr. & A. Gray) A. Nelson (17) B, D, F, L, M, P, S, W; 2260–3160m; bs, dm, ds, fw, lf.

Amelanchier utahensis Koehne (8) B, F, L; 1850–3110m; af, bs, dm.

Chamaerhodos erecta (L.) Bunge var. *parviflora* (Nutt.) C.L. Hitchc. (4) S, T; 2450–2765m; bs, dm, gr.

Crataegus rivularis Nutt. (2) L; 2065–2175m; dm, wt.

Dasiphora fruticosa (L.) Rydb. (125) B, D, F, G, L, M, P, S, T, W; 2175–3795m; af, at, bd, bs, dm, fw, gr, lf, lm, lw, ma, rs, sa, sf, wf, wm, wt; (*Pentaphylloides floribunda*, *Potentilla fruticosa*).

Dryas octopetala L. var. *hookeriana* (Juz.) Breit. (20) D, G, P, T; 2665–4025m; at, dm, gr, lm.

Drymocallis arguta (Pursh) Rydb. (32) B, D, F, M, P, S, T; 2255–3420m; af, bs, df, dm, fw, gr, lf, sf; (*Potentilla arguta*).

Drymocallis pseudorupestris (Rydb.) Rydb. (70) B, D, F, G, L, M, P, T, W; 1850–3565m; af, at, bs, dm, ds, fw, gr, lf, lm, wf, wm; (*Potentilla glandulosa* var. *pseudorupestris*).

Fragaria vesca L. (39) B, D, F, G, L, P, S, T, W; 2280–3500m; af, bs, df, dm, fw, lf, sf, wm, wt.

Fragaria virginiana Mill. (70) B, D, F, G, L, M, P, S, T, W; 2210–3170m; af, bs, df, dm, ds, fw, lf, sf, wm, wt.

Geum aleppicum Jacq. (3) P, W; 2530–3295m; at, ds.

Geum macrophyllum Willd. var. *perincisum* (Rydb.) Raup (66) B, D, F, G, L, M, P, S, T, W; 1860–3180m; af, dm, fw, ma, rs, sa, wm, wt.

Geum rossii (R. Br.) Ser. var. *turbinatum* (Rydb.) C.L. Hitchc. (59) B, D, F, G, M, P, T, W; 2665–3965m; at, dm, gr, lm, wm.

Geum triflorum Pursh var. *ciliatum* (Pursh) Fassett (95) B, D, F, G, L, M, P, S, T, W; 1790–3415m; af, at, bs, df, dm, ds, gr, jw, lm, rs, wm, wt.

Geum triflorum Pursh var. *triflorum* (7) L, M, S, T, W; 2280–3160m; af, bs, wt.

Holodiscus dumosus (Nutt. ex Hook.) Heller (13) L, P; 1850–2885m; bs, dm, jw, lm.

Ivesia gordonii (Hook.) T. & G. (28) B, F, P, S; 2345–3795m; at, bd, dm, gr, sa, wf, wm.

Petrophyton caespitosum (Nutt.) Rydb. (7) G, L; 1850–2745m; lm.

Potentilla anserina L. (13) B, F, S; 2225–2500m; af, ds, ma, sa, sf, wm, wt.

Potentilla biennis Greene (2) B, S; 2285–2375m; gr, wm.

Potentilla bipinnatifida Douglas ex Hook. var. *bipinnatifida* (2) G, T; 2895–3230m; dm, lm.

Potentilla concinna Richardson var. *concinna* (28) B, F, G, L, M, P, S, W; 2160–3355m; af, bs, dm, gr, lm, wt.

Potentilla diversifolia Lehm. var. *diversifolia* (179) B, D, F, G, L, M, P, S, T, W; 2210–3965m; af, at, bs, dm, fw, gr, lf, lm, ma, rs, sf, wm, wt.

Potentilla diversifolia Lehm. var. *perdissecta* (Rydb.) C.L. Hitchc. (21) B, D, G, L, T; 2460–3535m; at, bs, dm, fw, lm.

Potentilla gracilis Douglas ex Hook. var. *brunnescens* (Rydb.) C.L. Hitchc. (38) B, F, G, L, M, S, W; 2260–3050m; af, bs, df, dm, fw, gr, lf, lm, sa, sf, wf, wm, wt.

Potentilla gracilis Douglas ex Hook. var. *elmeri* (Rydb.) Jeps. (11) F, G, L, M, S; 2330–2745m; bs, dm, ds, wm.

Potentilla gracilis Douglas ex Hook. var. *fastigiata* (Nutt.) S. Watson (37) B, F, G, L, S, T, W; 2255–3110m; af, bs, df, dm, fw, lf, ma, rs, sf, wm, wt; (var. *nuttallii*).

Potentilla gracilis Douglas ex Hook. var. *flabelliformis* (Lehm.) Nutt. ex T. & G. (1) T; 2255m; dm.

Potentilla gracilis Douglas ex Hook. var. *pulcherrima* (Lehm.) Fernald (68) B, D, F, G, L, M, P, T, W; 2160–3230m; af, bd, bs, df, dm, ds, gr, lm, lw, sa, sf, wf, wm.

Potentilla hippiana Lehm. var. *effusa* (Douglas ex Lehm.) Dorn (22) B, D, L, P, S, T; 2005–3525m; bs, df, dm, ds, gr, lm.

Potentilla hookeriana Lehm. var. *hookeriana* (1) G; 3050m; dm.

◆ *Potentilla hyparctica* Malte (10) D, F, G; 3170–4110m; at, dm, gr.

Potentilla nivea L. (6) D, F, P, T; 3110–3505; at, dm, gr.

* *Potentilla norvegica* L. ssp. *monspeliensis* (L.) Asch. & Graebn. (13) B, F, S; 2255–2895m; bs, df, dm, ds, lf, sa, wm.

Potentilla ovina Macoun var. *decurrens* (S. Watson) S.L. Welsh & B.C. Johnst. (7) B, D, P; 2630–3700m; at, dm, wm.

Potentilla ovina Macoun var. *ovina* (53) D, F, G, L, P, S, T, W; 2210–3600m; at, bs, df, dm, fw, gr, lm.

Potentilla pensylvanica L. (10) L, T; 2255–3180m; bs, dm, jw, wm.

Potentilla plattensis Nutt. (6) F, L, S; 2360–2510m; bs, dm, lw, wm.

Potentilla rubricaulis Lehm. (11) D, G, L, T; 2065–4110m; at, bs, dm, lm.

Prunus virginiana L. var. *melanocarpa* (A. Nelson) Sarg. (35) B, F, L, P; 1725–2885m; af, bs, df, ds, fw, gr, jw, lf, lm, rs, wt.

Purshia tridentata (Pursh) DC. (59) B, F, L, M, P, S; 1725–2885m; af, bs, df, ds, gr, jw, lw.

Rosa nutkana C. Presl var. *hispida* Fernald (1) T; 2620m; gr.

Rosa sayi Schwein (34) B, D, F, G, L, M, S, T; 1725–3120m; af, bd, bs, ds, fw, gr, jw, lm, lw, sa, sf, wm, wt.

Rosa woodsii Lindl. (25) B, F, L, M, P, T, W; 1850–3050m; af, bs, dm, ds, lf, lm, rs, wt.

Rubus idaeus L. var. *aculeatissimus* Regel & Tiling (65) B, D, F, G, L, M, P, S, T, W; 1850–3720m; af, at, bs, df, dm, fw, gr, lf, lm, sf, wm; (var. *strigosus*).

Rubus idaeus L. var. *peramoenus* (Greene) Fern. (3) L, T; 2550–3180m; dm.

Rubus parviflorus Nutt. var. *parviflorus* (7) B, F, W; 2255–2800m; af, fw, wt.

* *Sanguisorba minor* Scop. ssp. *muricata* Briq. (1) T; 2225m; ds.

Sibbaldia procumbens L. (79) B, D, F, G, M, P, W; 2785–4110m; at, dm, fw, gr, lf, lm, ma, sf, wm, wt.

Sorbus scopulina Greene (3) B, F, L; 2255–2800m; af, df, lf, sf.

Spiraea betulifolia Pall. var. *lucida* (Douglas ex Hook.) C.L. Hitchc. (1) F; 2500m; lf.

Rubiaceae

Galium aparine L. (3) L; 1725–2475m; bs, dm, jw.

Galium bifolium S. Watson (19) B, F, L, M, P; 2345–3295m; af, bs, dm, fw, gr, lf, lm.

Galium boreale L. (52) B, F, G, L, M, P, S, T, W; 1860–3170m; af, bd, bs, df, dm, ds, fw, lf, lm, rs, sa, sf, wm.

Galium trifidum L. var. *subbiflorum* Wiegand (10) D, L, P, S, W; 2210–3205m; fw, ma, wm, wt.

Galium trifidum L. var. *trifidum* (34) B, F, G, M, P, S; 2285–3080m; fw, ma, rs, sa, wm, wt.

Galium triflorum Michx. (4) B, F, G; 2255–2680m; fw, lf, sf.

◆ *Kelloggia galioides* Torr. (1) L; 2700m; af.

Rupiacae

Rupia cirrhosa (Petagna) Grande (1) F; 2305m; aq.

Salicaceae

Populus acuminata Rydb. (1) L; 1860–1980m; sa.

Populus angustifolia E. James (26) B, D, F, L, M, T; 1725–3120m; af, bs, fw, lf, rs, sa, wm, wt.

Populus balsamifera L. var. *balsamifera* (10) D, F, G, P, T, W; 2175–3120m; af, bs, ds, gr, wm.

Populus tremuloides Michx. (88) B, D, F, L, M, P, S, T, W; 1850–3295m; af, bs, df, dm, ds, fw, gr, lf, lm, lw, rs, sa, wm.

Salix arctica Pall. var. *petraea* (Andersson) Bebb (62) B, D, F, G, M, P, T, W; 2665–4110m; at, dm, gr, lm, wm.

Salix bebbiana Sarg. var. *bebbiana* (31) B, F, L, P, S, T; 2065–2745m; af, fw, ma, rs, sa, wm, wt.

Salix boothii Dorn (64) B, D, F, G, L, M, P, S, T, W; 2210–3205m; af, dm, fw, wm, wt.

Salix brachycarpa Nutt. var. *brachycarpa* (22) D, F, G, M, P, T, W; 2375–3525m; fw, sa, wm, wt.

◆ *Salix candida* Flueggé ex Willd. (3) F, P; 2375–2490m; ma, wt; USFS R2 Sensitive.

Salix drummondiana Barratt ex Hook. (20) B, D, F, G, M, P, T, W; 2375–3525m; dm, fw, lf, wm, wt.

Salix eastwoodiae Ckll. ex Heller (20) B, D, F, G, M, P, T, W; 2665–3500m; fw, lm, wm, wt.

Salix eriocephala Michx. var. *watsonii* (Bebb) Dorn (7) B, F, L, W; 1860–2565m; rs, wt.

Salix exigua Nutt. (8) F, L, T; 1790–2670m; rs, sa, wm, wt.

Salix farriae Ball (5) W; 2560–2745m; wm, wt.

Salix geyeriana Andersson var. *geyeriana* (64) B, D, F, G, L, M, P, S, T, W; 2210–3120m; af, dm, fw, gr, sa, sf, wm, wt.

Salix glauca L. var. *villosa* Andersson (81) B, D, F, G, P, T, W; 2635–3830m; at, dm, gr, lm, ma, sa, wm, wt.

Salix lasiandra Benth. var. *caudata* (Nutt.) Sudw. (12) B, D, L, P, S; 2210–2625m; af, fw, sa, wm, wt.

Salix lemmonii Bebb (8) P, S, W; 2410–3060m; fw, wt.

Salix melanopsis Nutt. (3) F, L, M; 2065–2315m; sa, wm.

Salix planifolia Pursh (84) B, D, F, G, L, M, P, T, W; 2375–3840m; at, dm, fw, gr, ma, wm, wt; (includes vars. *monica* & *planifolia*).

Salix reticulata L. var. *nana* Andersson (40) B, D, G, P, T; 2665–3830m; at, dm, gr, lm, wm, wt.

Salix rotundifolia Trautv. var. *dodgeana* (Rydb.) E. Murray (13) D, G, P, T; 3155–4110m; at, lm, wm.

Salix scouleriana Barratt ex Hook. (11) B, F, T; 2255–3050m; af, bs, df, lf, sa, wm.

Salix tweedyi (Bebb ex Rose) Ball (24) B, D, F, L, P, W; 2605–3525m; af, fw, gr, wm, wt.

Salix wolfii Bebb var. *idahoensis* Ball (5) D, M, W; 2500–3185m; wt.

Salix wolfii Bebb var. *wolfii* (42) D, F, G, M, P, T, W; 2290–3365m; fw, wm, wt.

Santalaceae (Viscaceae)

Arceuthobium americanum Nutt. ex Engelm. (21) B, F, G, M, P, W; 2315–2835m; af, df, dm, lf.

Arceuthobium cyanocarpum (A. Nelson ex Rydb.) A. Nelson (2) B, P; 2560–2745m; lw.

Comandra umbellata (L.) Nutt. var. *pallida* (A. DC.) M.E. Jones (34) B, F, L, M, P, S, T, W; 1725–3525m; bs, df, dm, gr, jw, lw.

Sapindaceae (Aceraceae)

acer glabrum Torr. var. *glabrum* (25) B, F, G, L, P, T; 1850–3320m; af, bs, df, dm, ds, fw, gr, lm, lw, rs, wf.

Saxifragaceae

Boykinia heucheriformis (Rydb.) Rosend. (23) D, F, G, L, T; 2865–3600m; at, dm, gr, lm; (*Telesonix heucheriformis*).

Heuchera parvifolia Nutt. ex Torr. & A. Gray (59) B, D, F, G, L, M, S, T, W; 1725–3350m; af, at, bd, bs, dm, fw, gr, jw, lf, lm, lw, sf.

Lithophragma glabrum Nutt. var. *ramulosum* (Suksd.) B. Boivin (67) B, D, F, G, L, M, P, S, T, W; 1850–3735m; af, at, bs, dm, ds, fw, gr, lf, ma, sf, wm, wt.

Lithophragma parviflorum (Hook.) Nutt. ex Torr. & A. Gray (8) B, F, S; 2315–2865m; af, bs, gr, lf.

Lithophragma tenellum Nutt. (33) B, F, L, M, P, S; 2150–3170m; af, bs, df, dm, rs, wm.

Mitella pentandra Hook. (54) B, D, F, G, L, M, P, T, W; 2470–3500m; fw, lf, ma, wm, wt.

Mitella stauropetala Piper var. *stenopetala* (Piper) Rosend. (6) F, G; 2530–3050m; df, dm, fw, lf, sf.

Saxifraga adscendens L. var. *oregonensis* (Raf.) Breit. (10) B, D, F, G; 3230–3965m; at, gr.

Saxifraga cernua L. (11) D, F, G, P, T; 2800–3965m; at, dm, gr.

Saxifraga cespitosa L. var. *minima* Blank. (10) D, F, G; 3230–3965m; at, gr.

◆ *Saxifraga chrysantha* A. Gray (8) D, F, P; 3155–4025m; at, gr; (*S. serpyllifolia* var. *chrysantha*).

Saxifraga flagellaris Willd. ex Sternb. var. *crandallii* (Gand.) Dorn (13) B, D, G, P, T; 2980–4110m; at, dm, gr, wm.

Saxifraga occidentalis Wats. (18) B, D, F, G, M, P, T; 2440–3840m; at, dm, gr, lf, sf, wm.

Saxifraga odontoloma Piper (75) B, D, F, G, L, M, P, T, W; 2335–3790m; at, fw, lf, lm, ma, sa, sf, wm, wt.

Saxifraga oppositifolia L. ssp. *oppositifolia* (11) D, G, T; 2665–3700m; at, dm, lm.

Saxifraga rhomboidea Greene (90) B, D, F, G, L, M, P, S, T, W; 2255–4025m; at, bd, bs, dm, gr, lm, rs, wf, wm, wt.

Saxifraga rivularis L. var. *debilis* (Engelm. ex A. Gray) Dorn (16) B, D, F, G, P, T, W; 2375–3790m; at, dm, fw, gr, lm, sf.

Saxifraga rivularis L. var. *flexuosa* (Sternb.) Engl. & Irmsch. (33) B, D, F, G, P, T, W; 2620–3965m; at, gr, lm, wm.

Saxifraga subapetala E. Nelson (24) D, F, M, T, W; 2375–3625m; at, bs, fw, gr, wm, wt.

Scrophulariaceae

* *Verbascum thapsus* L. (1) B; 2255–2315m; bs.

Solanaceae

* *Hyoscyamus niger* L. (2) F, S; 2315–2375m; bs, ds.

Nicotiana attenuata Torr. ex Wats. (2) F, S; 2285–2315m; bs.

Solanum triflorum Nutt. (2) T; 2255–2285m; bs, ds.

Tamaricaceae

*● *Tamarix chinensis* Lour. (1) F; 2375–2410m; sa.

Typhaceae (Sparganiaceae)

Sparganium angustifolium Michx. (18) B, D, F, G, W; 2315–3460m; aq.

Sparganium emersum Rehmman (6) B, F, S; 2285–2715m; aq, wt.

Sparganium natans L. (2) P; 2745m; aq.

Typha latifolia L. (2) B, F; 2345–2620m; aq, sa.

Urticaceae

Urtica dioica L. var. *occidentalis* Wats. (1) L; 2335–2430m; ds.

Urtica dioica L. var. *procera* (Muhl. ex Willd.) Wedd. (4) F, G, L; 1860–2745m; bs, rs, wm.

Verbenaceae

Verbena bracteata Lag. & Rodr. (1) F; 2255–2285m; ds.

Violaceae

Viola adunca Sm. (77) B, D, F, G, L, M, P, S, T, W; 2160–3795m; af, at, bs, dm, ds, fw, gr, lf, ma, rs, sf, wm, wt.

Viola palustris L. (25) B, D, F, G, L, P, W; 2385–3205m; dm, fw, ma, wm, wt.

Viola praemorsa Douglas ex Lindl. (44) B, F, L, M, P, S, W; 1850–3415m; af, at, bs, dm, ds, lw.

Viola purpurea Kellogg var. *venosa* (Wats.) Brainerd (24) B, F, L, P, S; 2375–3415m; af, at, bs, dm, ds, gr, lf, lm, sf.

Viola sororia Willd. var. *affinis* (Leconte) L.E. McKinney (6) D, F, L; 2065–3120m; af, fw, wm, wt; (*V. nephrophylla*).

Viola vallicola A. Nelson (22) B, F, L, P, S; 1850–2900m; bs, dm, gr, lm.

ADDENDUM

In the summer of 2013, two new species in the Poaceae were documented for the South Pass subregion of the Wind River Range: *Bouteloua gracilis* (H.B.K.) Lag. ex Griffiths (Heidel 3874, RM) and *Muhlenbergia cuspidata* (Torr. ex Hook.) Rydb. (Heidel 3876, RM).

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